THE BUILDER

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ARCHITECT & CONSTRUCTOR

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EVERY FRIDAY 9D.

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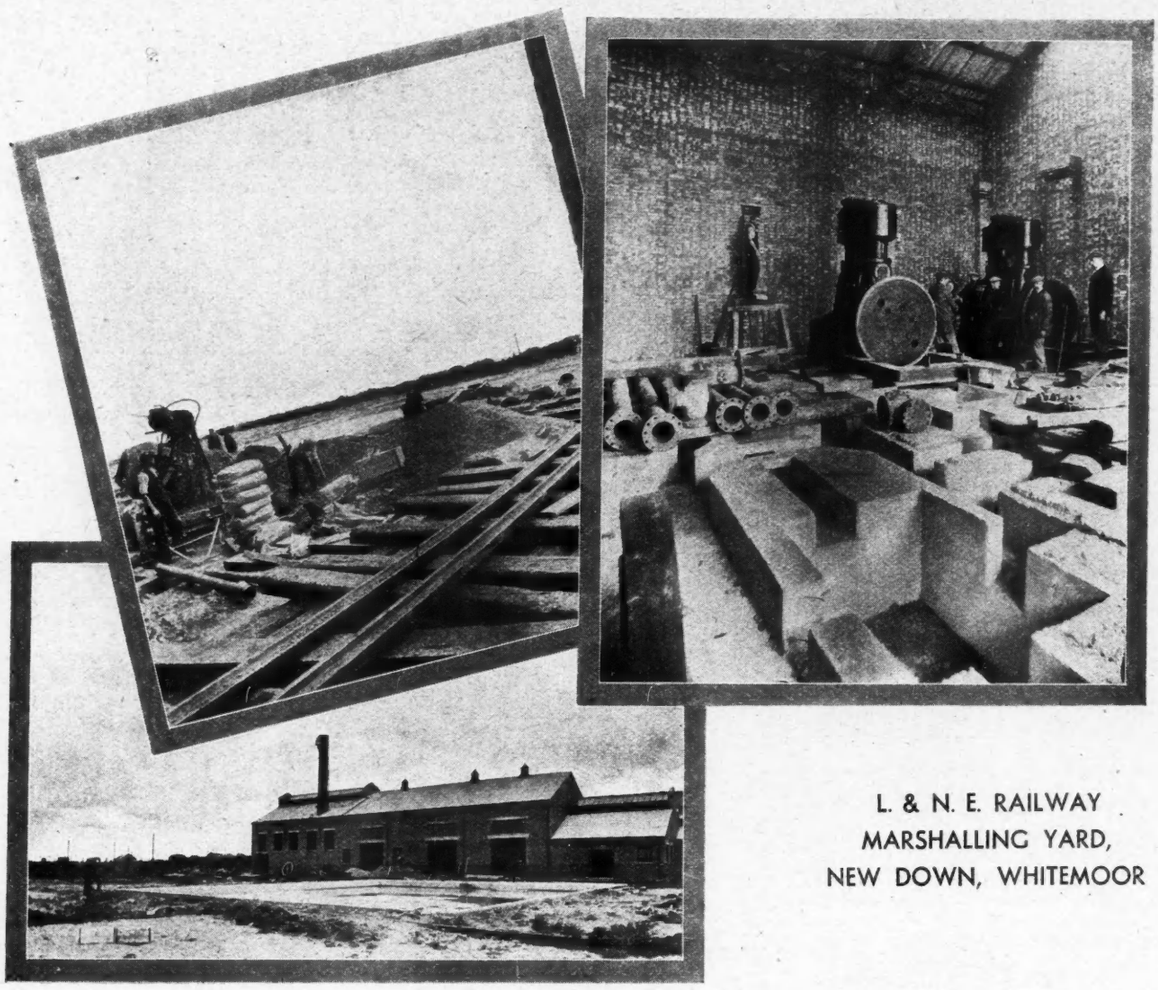

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THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLVIII FEBRUARY 2 1940 No. 5061

TIMBER: THE NEXT STEP

THE frank and clear statement on the present position in regard to national supplies of timber, made by the Timber Controller at a Press conference last Friday, can have left little doubt in the minds of those who were present, or who read the subsequent reports, that it is not the present intention of the Government to devote either credits or shipping to the importation of any timber other than that needed for the Service requirements. Apart from the release of softwoods for "munition towns" and the completion of housing in an advanced stage of construction, timber must be considered a luxury.

This must raise the question of the value or otherwise of pressing further on the Government the claims of the building industry to be allowed to carry on with construction other than that required for the direct conduct of the war. In spite of the Government's marked disinclination to consider as contributing to the national effort any form of building not concerned with Service or civil defence needs, we feel strongly that the campaign to secure reversal of the several restrictions which stand in the way should be prosecuted with the fullest vigour at the industry's command. So cogent are the reasons which have been advanced for maintaining the building trades and allied manufacturing industries that it is almost inconceivable that the weight of them should not in the end prevail.

An essential step we conceive to be the declaration by the Government of its policy in regard to building during the war. There has been so much confusion and distress caused already by reservation of personnel and acts such as the accumulation of stocks of materials to meet replacement that may be made necessary by enemy aircraft action that it is high time that Whitehall made its intentions clear. We are glad for this reason to note that the Glasgow Chamber of Commerce is among the latest to press for a Government statement on constructional policy.

Meanwhile, there is much for the building industry to do—particularly in collating the results of research on material alternative to timber and constructional methods which largely or entirely eliminate timber. So far, the work which has been published in these directions has principally been undertaken by non-official sources; one of the more recent is an interesting scheme for a timberless house, produced for Stirling County Council and illustrated elsewhere in this issue.

There are few signs, however, that any official notice is being taken of these efforts, and the building industry would appreciate an official pronouncement—probably from the Building Research Station—that steps in the direction indicated are being taken. It would seem clear that, if construction using the minimum of imported material can be successfully planned, the greatest Governmental objection to the continuance of civil building will have been removed.

Another matter which must be pursued to a satisfactory conclusion is the method of allocation of Government contracts. In this connection Sir Alfred Hurst's recent statement that one firm of Government contractors alone had been awarded £28,000,000 worth of work cannot but have stirred the public to question whether on grounds either of cost or expediency such action could possibly be justified. The War Office has now, it is true, instructed its Commands to limit tenderings to firms in the areas of the Commands, with the idea of allowing local firms to participate in the work, but this action must be implemented in the spirit as well as in the letter. An example given by a Devizes correspondent who was invited to tender for a single hut at Dorchester will indicate the type of thing we have in mind. The same correspondent points out another danger caused by engaging outside contractors—namely, that to secure necessary labour they pay wages and allowances well in excess of local rates, which not only sends up the price of the job, but deprives local contractors of their labour. A return to a proper system of tendering within reasonable territorial limits is urgently required.

THE GREAT CHURCH, HELSINKI.

The Great Church of Helsinki stands on one side of State Council Square, which is occupied on its other sides by the State Council Building, University buildings, and the Magistrates' Court. Designed in 1818 by Johan Carl Ludvig-Engel, the church was completed in 1852. The Square is the place where all Finnish military parades and patriotic demonstrations are held.

NOTES AND NEWS

"Artist and Architect": Mural Decorations.

TWENTY minutes is not a great length of time in which to discuss any question of art, and it was not surprising, therefore, that the talk, on Monday evening, between Mr. H. S. Goodhart-Rendel and Mr. Eric Newton, on "Artist and Architect," should have been somewhat sketchy and inconclusive. Nevertheless, many points of interest were touched on. Mr. Goodhart-Rendel made out a good case for a greater employment of mural artists in the decoration of public buildings, but confessed that there was usually little money for such work, and that few architects were capable of choosing the right artists. On the question of treatment, he was against "turbulent compositions" on weight-carrying walls, but saw no objection to the illusion of three dimensions on screen walls. This nice distinction appeals at once to the architectural mind, but we wonder how many laymen are capable of telling the difference between the two types of wall. Here, in any case, is an idea for educating the public in the structural systems of buildings!

Mr. Goodhart-Rendel thought that slightly fantastic subjects were most suitable to houses, and suggested that young artists might be engaged to do decorations that could be wiped off and replaced by something different when the occupiers became tired of them. Good for the artists, no doubt, but rather expensive for the owners unless done at the price of distempering or wallpaper! But would not the complete decoration of wall surfaces rule out the hanging picture, which looks best against a plain background? If so, the artist would seem to lose on the swings what he gains on the roundabouts. In any case, too much decoration would probably induce a reaction, for just as the mind can find contentment in "thinking of nothing," so the eye can find rest in "looking at nothing"—or next to nothing.

There are signs of a better understanding between architect and decorative artist (we were glad to hear Mr. Goodhart-Rendel mention the good work that is being done at the Royal College of Art), so we may well hope for better things.

Building To-day: "A Patchwork Picture." Government's Lack of Policy Blamed.

SIR ALFRED HURST, Chairman of the London Builders' Conference, said, at a luncheon of the Housing Centre on January 23, that the building industry presented an extraordinary patchwork picture. Some firms were getting too much work—one had £28,000,000 worth of contracts—and others were looking forward to the next few weeks with the utmost anxiety.

Sir Alfred added that the position of the industry was largely the fault of the Government, which had no policy for it as a whole, although it was perhaps the most important industry in the country. There was no solution to the present state of affairs, and the only palliative that he could see was that the Government should recognise, even at this late hour, that there should be some central body that could look at the industry as an industry. There was a great shortage of timber in Britain and someone had been very remiss.

Building During the War: Request to the Government to state Policy.

SIR CECIL WEIR, President of the Glasgow Chamber of Commerce, has told the Chamber that the Government will shortly be asked for its policy on building during the war. The Chamber, on January 22, considered a resolution passed by the Council of the Junior Chamber expressing concern at "the present rapid disintegration in the building industry and allied professions due to the enforced cessation of general building operations."

Building in Scotland: Deputation to Secretary of State.

A DEPUTATION of the National Federation of Building Trade Operatives in Scotland on January 26 asked Mr. John Colville, Secretary of State for Scotland, to resume house building as soon as possible so as to prevent a sudden rise in building trade unemployment when urgent war contracts were finished. Mr. Colville said the question of unemployment in the building trade was being considered by the Minister of Supply, the Chancellor of the Exchequer, and himself.

A Dublin Architect Honoured by New York.

MR. M. SCOTT, M.R.I.A.I., has been made an honorary citizen of New York, and has been awarded the city's Distinguished Service Medal for his designing of the Irish Pavilion at the World's Fair, which was widely praised for its originality.

A Broadcast Play on Wren.

THE B.B.C. announces that on Sunday, February 4, at 5 p.m., "Sir Christopher Wren," a play by C. Whitaker Wilson, specially adapted for the Children's Hour, will be heard in the Home Service programme. In it the story will be told of the building of St. Paul's Cathedral, and the characters include Sir Christopher Wren, Dean Sancroft, John Evelyn, King Charles II, Mr. Chichley, Thomas Strong, and Tonks.

COMING EVENTS

Friday, Feb. 2.—Housing Centre. Conference on "Problems of Social Environment and the War." 66, Portland-place, W.1. 10.30 a.m.

Friday, Feb. 2.—Electrical Development Association. Exhibition on A.R.P. Lighting, to be opened by Sir John Anderson. Building Centre, 158, New Bond-street, W.1. 3 p.m.

Tuesday, Feb. 6.—Architectural Association Students Committee and R.I.B.A. Junior Members Committee. Discussion on "The Organisation of the Building Industry." Speakers: Messrs. George Hicks, M.P., Richard Coppock, and Howard Robertson. 8.30 p.m. 34, Bedford Square.

Tuesday, Feb. 13. Air Raid Protection Institute. Mr. Norman Forster on "The Design and Installation of Services in Shelters." Royal Society of Arts, John-street, W.C.2. 8 p.m.

Friday, Feb. 16.—Institution of Mechanical Engineers. Annual General Meeting, Storey's Gate, S.W.1, 2.30 p.m.

Dublin Metropolitan Cathedral: Architects' Offer of Assistance.

A REPORT recommending that the Institute should offer its co-operation in consultation with Most Rev. Dr. Byrne, Archbishop of Dublin, and the Corporation in considering sites for the proposed Metropolitan Cathedral when the sketch development plan for the city was made available has been adopted by the Royal Institute of the Architects in Ireland.

Pithead Baths in Scotland: A Building Programme.

A PROGRAMME costing more than £60,000 for pithead baths in Scotland has been approved by the Miners' Welfare Committee. This includes baths and canteen, involving an expenditure of £27,000, for the new colliery of the Fife Coal Company at Comrie. Another large scheme of baths costing £19,000, is to be constructed at Glencraig pits, Fife. Two schemes are also proposed for collieries in Ayrshire at a total estimated cost of £14,326. In addition, tenders are being invited for the construction of baths at the Valleyfield Colliery, Fife, to accommodate 1,100 men.

Widening of Richmond Bridge. Scheme Almost Completed.

IN spite of the war, work on the widening and strengthening of Richmond Bridge has been continued, and it will soon be open for traffic. The widening, plans for which were prepared by Sir H. Dalrymple-Hay, has been effected entirely on the upstream side, and every effort has been made to preserve its original appearance. The façade, stonework, and parapet were taken down, all the parts being carefully marked and stacked, and later replaced. The work, which was begun three years ago, was estimated to cost £72,600.

An Architect's Estate.

MR. MAURICE EVERETT WEBB, D.S.O., M.C., F.R.I.B.A., of Queen Anne's-gate, S.W. (net personalty £21,583) left £27,608.

Barking Borough Surveyorship: A Retirement.

MR. R. A. LAY, the Barking Borough Engineer and Surveyor, has been compelled, upon medical advice, to relinquish his appointment as Borough Engineer and Surveyor. This has been accepted with regret, and the Council have placed on record an expression of their appreciation of the services rendered by him during a period of over 35 years. It is recommended that Mr. C. Harper, B.Sc. (Lond.), A.M.Inst.C.E., be appointed Borough Engineer and Surveyor.

IN 1915.

EXTRACT FROM *The Builder*, JANUARY 29.

MR. H. H. STATHAM [joining in a vote of thanks to Professor W. R. Lethaby for a lecture on "Modern German Architecture"] said the supposed supremacy of Germany in many walks of study had been greatly overrated. Their one great poet, Goethe, was one of the most un-German men who ever lived, and the next best, Heine, was essentially French in mind. The Germans had a great record in music, but that they had now lost.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Building and the State.

To the Editor of *The Builder*.

Sir,—The letters of Mr. Stanley Hall and Sir Alfred Hurst in your issue of January 12 give a timely warning as to the dependence of the country on the building and contracting industry for reconstruction and for the creation of those stable conditions in all trades upon which mankind is dependent.

"Statistical Abstract for the United Kingdom, 1938," gives the following particulars of insured workers (1937) in certain essential industries: Fishing, Agriculture and Food preparation, 1,293,520; Textile, Clothing and Footwear, 2,223,950.

The employment in these essential industries is partly dependent upon the success of other trades such as the building industry. The following extracts classify these other trades as being "partly," "largely" or "entirely" engaged in making for, or actually working in, the building and contracting industries.

Dependent on the Building Industry.	Partly.	Largely.	Entirely.
Mining, Quarrying, etc.	1,032,830		
Glass	51,200		
Chemical, Paint, Glue, etc.	231,730		
Vehicle Making	415,350		
Shipbuilding	172,810		
Wallpaper, Paper and Printing	438,690		
Transport	909,680		
Distribution	2,061,390		
Miscellaneous	1,908,120		
Finance	269,380		
Pottery, Fireclay and Earthenware		74,890	
Metal Manufactures		335,940	
Engineering and Foundry		822,380	
Metal Trades		634,820	
Woodwork, Timber, Furniture, etc.		248,680	
Lighting and Water		218,480	
Brick and Tile Making			106,460
Building and Contracting			1,329,400
	7,491,180	2,335,190	1,435,860

Taking a conservative basis that only 12½ per cent. of the "partly," and 33⅓ per cent. of the "largely," are directly engaged in producing for the building industry, we secure the following employment totals:—

12½ per cent. of 7,481,180 ...	936,400
33⅓ per cent. of 2,335,190 ...	777,600
"Entirely"	1,435,860
	3,149,860

a direct employment figure vastly in excess of any other industry.

A trade which, when in work, is responsible for circulating upwards of £450,000,000 annually in wages must have a profound effect upon the success of all other trades. It is, in fact, their life blood—it is the life blood of the country. Sir Noton Barclay, of the District Bank, stated in one of his annual speeches on banking that the economic recovery in Great Britain was largely based on the building boom.

A year before the outbreak of war the Government were urged to devise a scheme for insuring both stocks and property. An undigested scheme for the former was rushed out *after* the war had started, and the latter remains still unsolved, with its depressing effect on building that could go on without affecting the war effort.

The failure of the Government to utilise the services and advice of established industry is fraught with grave danger to Britain. Dependent as we must be, after the war, on this industry, every step should be taken to call the trade into conference as regards both the present and the future.

The establishment of a planning council as a constructive step is essential. The suggestion is by no means new. It has been pressed for by outstanding economists such as the late Sir Basil Blackett, director of the Bank of England, Lord Melchett, and Mr. Harold Macmillan, M.P.; Mr. Winston Churchill, at Oxford, in June, 1930, urged Parliament "to create a body, subordinate to itself, in the form of an Economic Parliament." A Council so constituted would not only assist in the present situation but, in planning for the future, would enable the country to release fully prepared work to coincide with the speed of demobilisation. To wait until the end of the war will spell disaster.

Failure to deal with the situation in advance will leave such key industries as iron and steel, after the war, without adequate turnover. Heavy overheads on a reduced demand, spell increased production costs, and this must, in turn, affect our export trades.

Surely, in connection with the country's largest industry, responsible for about 25 per cent. of the entire employment of labour, it is necessary for the Government clearly to state the policy they wish pursued, instead of leaving it in the present chaotic uncertainty.

For and on behalf of
Distributors of Builders' Supplies Joint Committee, P. Donald,
Chairman.

The R.I.B.A. Census of Membership.

To the Editor of *The Builder*.

Sir,—The War Executive Committee of the R.I.B.A. has published a Memorandum containing some figures, not apparently for their intrinsic importance but merely in an attempt to refute a statement that "salaried architects already account for 75 per cent. of the profession," contained in a letter to *The Builder* of January 5.

The Memorandum starts by referring to "misunderstanding about the distribution of the membership of the R.I.B.A. as regards private practice and official employment." There is, however, no such "misunderstanding"; there is a claim that the control of the R.I.B.A. does not reflect the composition of the Institute and is heavily weighted in favour of private practitioners. This claim can be easily substantiated by reference to the composition of the Council.

The Memorandum ends with the assertion that the figures it contains disprove the statement made in the letter referred to, and qualifies its claim by saying "as far as the R.I.B.A. is concerned." But the statement in the letter which appears to have so upset the War Executive Committee (a statement made, by the way, on the authority of Mr. R. A. Duncan, a member of that committee!) refers to salaried architects in the whole profession. It cannot be answered "as far as the R.I.B.A. is concerned," nor is it refuted by figures relating to private and official architects.

The Committee asserts that the census "has brought the true figures to light." These figures, however, repay examination. The census apparently yielded 6,415 replies, of which 3,240 were from private practitioners and 840 from assistants in private offices. Adding these together, the Committee claims that 63.5 per cent. of the whole are "members engaged in private practice." But an assistant in a private office is not engaged in private practice; he is a salaried architect. The only deduction of any significance from these figures is that private and salaried architects are almost equal in numbers.

This deduction is nevertheless a false one, inasmuch as the figures are obviously very incomplete. Most private practitioners hold R.I.B.A. qualifications, and it is possible that the figure of 3,240 is fairly accurate. But is it credible that there is only one assistant to every four practitioners? In fact, it is well known that many of the younger salaried architects never filled up their registration cards, having no faith in the utility of the Register. Moreover, the active membership of the R.I.B.A. contains (1939-40 Kalendar) 8,594 qualified architects; in addition there are 2,061 students and 4,880 probationers, most of whom are in salaried posts, and a large body of architects outside the R.I.B.A. In the absence of any indication in the Memorandum as to how the figures given are split up amongst the various categories, it is impossible to know whether the census returns are proportionately true, either for the whole profession or "as far as the R.I.B.A. is concerned."

The fact is that this Memorandum is tendentious in character and confused in matter; the figures it presents are used disingenuously to support an irrelevant contention, and are themselves meaningless in their present form. It may be surmised that the criticisms made recently by the A.A.S.T.A. and others of the conduct of architectural affairs by the R.I.B.A. have upset the equanimity and affected the judgment of those against whom these criticisms were directed; it would be more in accordance with their pretensions if they were to issue a revised edition of the census figures, properly analysed, not in the form of a misdirected refutation of one of their own members, but simply as information which is needed by the profession as a whole.

K. J. Campbell, A.R.I.B.A., Chairman,
Public Relations Committee, A.A.S.T.A.
57, New End, N.W.3.

[A further letter is on page 163.—Ed.]

ARCHITECTURE, 1919—1939

By HOWARD M. ROBERTSON, F.R.I.B.A., S.A.D.G.*

THE progress made in architecture since the last war did not have its origins entirely in the results of that war. The germ of what has developed in the past twenty-five years existed before 1914. The war was one of the factors which accelerated the rapidity of architectural evolution, because a war period is one in which a critical self-examination takes place, a sort of mental stocktaking. That occurred in 1914-18, and is occurring again in this war. Architects, being largely unemployed just now, are doing some serious thinking, the results of which are going to be important to the building industry of which they are a part, and eventually to the public which they serve. When it is realised that nearly a quarter of the insured working population of these isles is dependent on the building industry, it can be seen how important it is that its energies and output should be well directed.

The pre-1914 spade work, which shifted architectural design out of its rut of revivals, was done by a number of very creative architects who felt dissatisfaction with the failure of their art to keep abreast of current problems in planning and building technique, and who felt that the accepted forms of building did not present a true expression of the age. The history of this genesis of a new movement has been written already, though not perhaps exhaustively. One point, however, which has been largely overlooked, is the influence exerted in architecture by painting, which worked through individual contacts rather than through a general receptivity on the part of architects, who have perhaps been unaware of the extent to which pioneering amongst painters and sculptors has in the last 50 years preceded æsthetic experiment in architectural form.

Influence of Exhibitions.

A further influence in architectural design, also not fully recognised, is that of exhibitions. These are by no means always a summing up of what has been done in the general field. They provide a gateway open to the innovator, and their repercussions are sometimes so wide that they may change the whole face of architecture given a favourable set of conditions.

Exhibitions are sometimes thought to be a great waste of money, though a week of war nowadays would pay for quite a large one. Manufacturers generally pretend to detest them, though ending by lending a grudging support. The public likes them, and Governments support them, partly because of the drawbacks of staying out.

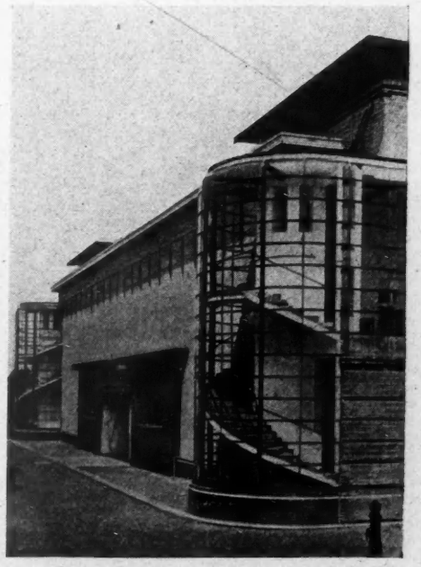
Yet exhibitions undoubtedly set the mind of the designers aflame. They offer examples on a big scale, otherwise unrealisable, of what may later prove to be a style of architecture officially recognised. They give an opportunity for the revolutionary thinker to expound his creed. Let us examine a few concrete cases.

The first important example is the Chicago Columbian Exhibition of 1893. Its main architectural theme was based on Imperial Rome, and it was magnificently done. It may to-day appear as dead stuff—critics like Lewis Mumford would not even say "may"—but it produced order out of a chaos into which American architecture had fallen. The classical style swept the board; and whatever its demerits, it has been the father of a whole family of excellent official buildings in America, which is exactly the field in which this sort of tradition may claim legitimate existence. At the same time that exhibition gave an opportunity for a local genius, Louis Sullivan, to design the Transportation Building with its golden portal, precursor of much good modern architecture built in our time.

More within the scope of our subject is the Cologne Werkbund Exhibition held in 1914. Here was shown work very nearly as modern as anything we know to-day, and it was a building by Walter Gropius, the Hall of Machinery, which showed a complete breakaway from all revivalist tradition. It even had all-glass staircases, a motif which the young enthusiast of to-day—25 years later—is working very hard. To Gropius we shall return, as also to the matter of exhibitions which reappear as influences throughout our period between the two great wars.

Early Modernists.

In England, before War No. 1, we apparently had only one up-to-date building, the Crystal Palace. That is the choice of our intelligentsia, though it was actually rediscovered by a Swiss (not Le Corbusier). We had enjoyed tradition, we had played with revivals, we had flirted with the Art Nouveau. We had nearly forgotten William Morris, and had hardly understood Voysey and Mackintosh, men whose thinking corresponded to that of architects like Loos and Otto Wagner in Vienna, Van de Velde in Belgium, Berlage in Holland. Our strong suit was the individual interpretation in architecture carried out by sympathetic and creative men with very untrained minds who had excellent instincts but little design technique. This equipment suited very well the problem of domestic architecture, and the sometimes accidental charm, the naive touch, coupled with an inherited sense of materials, has made English domestic architecture unique and difficult to emulate. But, monumentally considered, our design powers were feeble, and we were rapidly going downhill. Our men of taste lacked training, whereas, on the other side of the Channel, in France, the men of training lacked taste.



THE GLASS STAIRCASE BUILDING IN "THE HALL OF MACHINERY" AT THE COLOGNE WERKBUND EXHIBITION, 1914, BY WALTER GROPIUS. "Forerunner of many modern buildings. The 1919-39 movement was born before the last war."

Trained in schools, the average young French architect acquired an admirable theory of composition and planning. But for their exteriors they copied the copies of the copies of the Grand Prix men who had copied the copies of the antique.

Our own pride lay not in the sort of reach-me-down Renaissance of the London County Hall; nor had our one "Rock of Gibraltar," Liverpool Cathedral, taken sufficient shape to point a message. What we did have was the work of men like Sir Edwin Lutyens, Sir Guy Dawber, and the heritage of architects such as Ernest Newton, Baillie-Scott, and of course Charles Voysey. Outstanding in charm and individuality outside, set in the sort of gardens that the picture papers are beginning almost to make us hate, the English house was too often inconveniently and extravagantly planned, roughly finished internally, and functionally ill-equipped. Our better houses compared badly, under these headings, with comparable American or German homes. And our speculative houses of 1914 were very much below the American standard of 1895. To-day we can point to marked improvement, but there is still substantial leeway to make up.

Individualists that we are, our domestic architecture was very eclectic. The Baillie-Scott influence, huge sweeping roofs and tiny windows, houses looking a little like fairy-story illustrations, did not survive the war. Our domestic architecture emerged slightly purged of its leaders, with a few great names unscathed, but definitely on the wane. The new era had come.

It was definitely a smug one. A neat sort of Georgian emerged, sometimes tinged with Regency if it was in stucco. Simplicity, from a necessity, became a virtue. Our architects planned spacious Georgian houses, but reduced to a doll's house scale. Like miniature cars, they had everything just like a real car, except size.

There used to circulate a verse which pretty well summed up that particular design outlook. Probably it comes from the fertile brain of Professor Richardson, and I apologise if it is misremembered:-

"Mutules in your cornice
Acanthus round the door
Small panes in your windows
Four feet from the floor
Georgian in the country
Neo-Grec in town
That's the stuff to give 'em
If you want renown."

* A paper read before the Royal Society of Arts, on Wednesday, January 31. Sir Kenneth Clark, K.C.B., Director of the National Gallery, presided.

The Schools.

As the war ended, the schools of architecture opened up. They had begun to be felt before 1914, and had already turned out students who were really trained; potentially they were professional architects in a sense that the older architect, with all his apprenticeship and practical experience, was not.

What we may call the craftsman type of architect, who has never been taught the technique of planning and composition, is in that sense a very distinguished amateur. One of the great differences between the professional and the amateur is that the professional has the capacity to progress. A good level of architecture in a country comes, not from a few excellent buildings, but from a great body of sound work. The school training started out to provide this, and while one must admit that a school graduate does not always produce an outstanding building, he rarely produces a bad one; the level in fact is high, and the school-trained architect has in the last few years had more influence on his elders than vice versa.

Official architecture before the war had been very much nourished on competitive selection. The architect who had the flair would suddenly become a winner, and then have success after success. Like a successful playwright, Pinero or Henry Arthur Jones, he would have several productions running at once. Then his vogue would cease, with some other fellow producing the winning number. Very important buildings, such as the Port of London Authority Building, by Sir Edwin Cooper, were won in competition.

After 1918.

After 1918 the competition system still went on; some of its minor results were interesting, such as the *Daily Mail* Home competitions, where was born the laboratory kitchen with no room for the cook to move except by a lateral glide. But there were serious contributions besides. and P. D. Hepworth, who won one of them, has evolved a type of small house that has had considerable influence.

The flat roof for houses had peeked out into the world before 1914. Edgar Wood used them, I seem to remember, at Letchworth; and some of the young architects carried off early housing competitions with flat roof designs in the early 'twenties.

The shortage of bricks and bricklayers after the war brought forth all sorts of substitute constructions. Houses were built of steel frame covered with wire mesh and sprayed with a cement gun. Others were made of concrete, in block or poured form. Some of the "homes for heroes" were to be made of cow-dung or pounded mud. It was a great moment for reconstruction.

There were many disappointments and many heartbroken tenants toiling over the stove that heated four rooms and boiled the bath water. But some very good design came out of it, housing by Hennell and James, for example, and useful technical knowledge was gained which will come in handy this next time. Some of the older architects were still there, going strong; but the younger ones were on the march, doing big things like the creation of Welwyn Garden City by Louis de Soissons, this being his first real job and a big one for a beginner.

And so English architecture started off again, with a practical mind but rather Georgian feet. It was all simpler, cheaper and cleaner than before the war. But not quite so much fun.

All went merrily, but a few architects like Robert Atkinson at the Architectural Association Schools would keep introducing the architecture of men like Louis Sullivan and Lloyd Wright into their lectures, thus doing a duty but spreading a virus. And then suddenly came Holland to touch off the plague of the modern.

Conquered by the Continent.

It was in the early 'twenties that the Secretary of the Architectural Association, Mr. F. R. Yerbury, a few other architects, and myself, went to Holland. We had heard of the wonderful new housing schemes, "complexes" as they called them, built in Amsterdam and Rotterdam, whole new quarters of them. We went, we saw, and we were conquered. Kilometres of marvellous brickwork, daringly thrown together in an entirely fresh (to us) plastic, and a skill in fenestration of which we in England certainly did not have the like. The work of the young architects like Kramer and de Klerk went to our hearts and heads. The Dutch were the boys for us (as they were once before) and back we hurried to write and illustrate. Mr. Yerbury is a wonderful photographer, so perhaps we can partly put on to him the blame for starting the modern movement in England.

The Dutch sent an exhibition of their work to England, and soon the young architects began to go slightly Dutch. Then the more curious amongst us began to travel elsewhere, to Vienna, for example, where one rediscovered Otto Wagner, Josef Hoffmann, and, incidentally, heard that a man called Corbusier had once passed that way but did not linger long.

The process of writing and photographing was repeated, with Mr. Yerbury as the evil genius. Denmark, Sweden, Germany, were all combed. It rained modern architecture in the English technical Press, and the older generation mostly hated it.

Of course our admiration was overdone. But there was plenty to feed it, and when one considers the number of exhibitions which fed the flames it is not surprising.

Our own Wembley was still in the Cyclops period, but abroad they had Gothenburg, Paris, Stuttgart, Dusseldorf, Stockholm, Brussels, and the Century of Progress in Chicago, all big exhibitions, and all modern in sympathy.

Two events occurred which had effects subsequently far-reaching on evolution in design. One was the *Chicago Tribune* competition in Chicago, where a design by the Finn, Eliel Saarinen, attracted a great attention because it broke away from a feature usual in the design of tall buildings, namely, the convention of giving it a base, shaft and cornice. Saarinen's building shot straight up as a sort of jet of piers and windows. The Americans saw in it the future of skyscraper design, and it was not long before English architects were using the same idea in the design of shops and office buildings. There have been many modifications of that crude idea since, and we have buildings like "Peter Jones" in Sloane-square to show how it has developed via experiments on similar lines in Germany.

The Paris Exhibition.

The second event was the Paris Exhibition of 1925, which exemplified the sort of modern design which had not crystallised and to-day is apt to be disdainfully labelled as "modernistic." There were some very significant buildings there, from Czechoslovakia, Poland, Sweden, and Russia, and they have all been used as the basis for further development. But tucked away in one corner was the pavilion of a paper called *L'Esprit Nouveau*, run by Ozenfant, and the painter-architect who as a painter is called Jeanneret and as an architect Le Corbusier. This pavilion was given an indifferent site, with a tree in the middle of it. But Le Corbusier made a hole in his roof for the tree, and like an ingenious designer made capital out of his difficulties.

This pavilion was a sort of model cell made out of one of Le Corbusier's designs for a multiple dwelling-house. It contained the germ of many of the ideas which he has so skilfully publicised in his books and executed work.

Le Corbusier has learned much from the pioneer work of Adolf Loos in Vienna—all evolution is connected—and subsequently from Perret in Paris, but he is very much of an artist besides being a technical experimentalist and theorist. He and Ozenfant developed out of Cubism in painting a style known as Purism, and he applied polychromy to his interiors and exteriors in a very interesting way. His knowledge of the antique, his travels and studies, and his skill as a painter make of Le Corbusier an architect who takes a very special place as an *animateur*, and his influence has been very wide in this country among the younger architects. Unfortunately his admirers are apt to borrow his idioms without attempting to develop his themes. Nevertheless his writings and designs spread like wildfire here and on the continent, even to Sweden, which has an excellent modern trend of its own. Amongst buildings showing the Le Corbusier influences are many houses and flats in London and the country, designed for the most part in concrete. Functionalism has arisen very largely from Le Corbusier's description of the house as a *machine à habiter*, a statement which he has subsequently modified. But he is at heart a designer who loves form and structure for its own sake, who delights to dream and plan, and who is a romantic of the twentieth century.

Shortly after 1925, commercial interests in this country saw that there was a new sort of design afoot, and seized upon its externals for the design of office buildings, shops and factories. There came buildings like Dragés, Crawfords, and the factories of the Great West-road. Many of the new shop-fronts were frankly detestable, and the commercial buildings were often designed by older architects who did not feel the movement in their bones, but dressed their structures in it so as to be in the swim. Out of this somewhat grim hotpotch came the "modernistic" and the *moderne*, both terms of opprobrium to-day.

Le Plan Libre.

Le Corbusier's championship of *le plan libre*, the carrying of the house on posts and slabs with the walls as curtains and screens, and German experiments in building with continuous windows and supports inside soon also caught hold in England. The idea is not new. Factory

architects used it years ago; it was seen in Ford's Detroit factories, and in Wrigley's factory in London long before it came over from abroad with fresh prestige.

But applied to the dwelling house it was novel, and allied with the use of reinforced concrete gave great flexibility to the house plan. The new houses had flat roofs, also a Le Corbusier feature, and their shapes were therefore free from the geometrical limitations of the old roofs of tile and slate. Everyone was enthusiastic at this progress, which is real. But such houses do not suit every taste, or meet the exigencies of every situation. The use of concrete, of large areas of glass, and an aesthetic based on a not always pure form, do not spell finality. Architectural design is still on the march, and the last word of to-day may well be the "has been" of to-morrow, so quickly in this hectic age does action breed reaction.

While experiments in new forms and materials proceeded, the ordinary traditional house, and commercial buildings also, have developed on lines less spectacular but interesting for all that. Better planning provided the touchstone. Economy, labour-saving, and efficiency, became necessities owing to higher building costs and wages. At the same time a more intensive study of form and proportions followed as the result of enforced simplicity. The Georgian tradition, perhaps because of its straightforward character and its natural expression in the brickwork which suits England so well, has been the basis of a type of design which has good manners and is adaptable. It does not readily lend itself to large-scale commercial structures of a very open character, like shops or factories, but it provides a pretty satisfactory, if occasionally dull, type of street architecture. Curiously enough the Regency architecture, which is so adaptable to the demand for large windows and broad surface, has been neglected, or a style derived from Wren has been used as a theme, and that is why the results are so negative.

"Stream-Lining."

The main feature of our more recent tradition-inspired work is a recognition of what in industrial design can be termed stream-lining, a sort of tailored economy in form and detail, which makes for well-dressed street architecture. There are plenty of buildings of the poor but pretentious school—more than of the tailored type—but stream-lining is alive, working away in the small details of homely articles like refrigerators and cookers and telephones and radios. Our period may not be a great one, but it has produced stream-lining, the lessons of which need not be lost even if we return to frills. We may still see the stream-lined antimacassar, or the stream-lined aspidistra; unless the cactus is already that.

Analysing the contributions of the last 25 years' work, we may pick out one or two interesting themes which we can pass on to the next post-war generation to work upon.

In planning and design, there is the conception of the house as enclosed space standing on posts or pillars. This is the house schemed like a miniature department store, with semi-permanent divisions, lots of glass window, and adaptable to the most advanced conceptions of sociology because it is in fact flexible and impersonal.

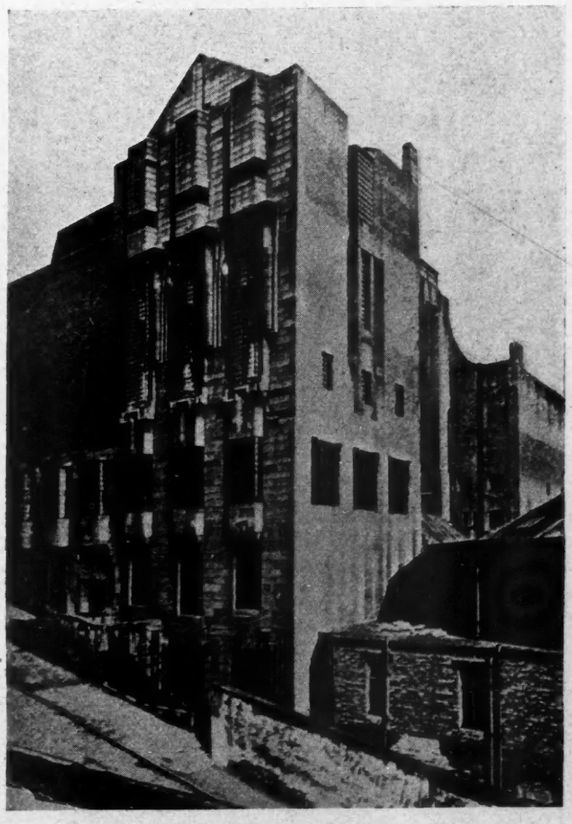
Secondly we have the architects like Lloyd Wright and Mies Van der Rohe in Germany, who are always searching for a new aesthetic expressive of an idea of living of a purely mental attitude. They leave us with interesting experiments in the relationships of space, and with the fresh possibilities of interlocking interior and external space, creating an even flow from room to terrace and to garden.

Thirdly, we have the pre-fabricated house, sold in packages in America, but not yet accepted as a solution to economic building. Linked with this there is a whole field, hardly touched as yet, of the pre-fabrication of units like kitchens and bathrooms, and research on these subjects by revoluntionary inventors like Buckminster Fuller in the U.S.A.

Fourthly, we can show progress in mechanical equipment, services like heating, lighting, air-conditioning, all still a little primitive but ready for further steps forward.

If one may hazard a guess, our next drive is going to be for still more comfort and convenience. The problem of the future will be the provision of it with no money to pay for it. Comfort, security, low first cost and maintenance; problems like these form a nice little collection of headaches which we are bequeathing to the next architectural generation.

On the aesthetic side, it is quite possible that there may be brought about a renewal of the lost contacts between architecture and painting and sculpture. Our modernists have swept the floors and put away all the old familiar stage properties. The stage is now ready, but for what? The purity of the best modern work is its greatest asset, and perhaps it may become allied, as was the purity of Greek architecture, with those other arts from which so much sustenance is to be obtained.



THE GLASGOW SCHOOL OF ART. By Charles Rennie Mackintosh. "A striking example of the early roots of the modern movement."

THE MUSÉE COLONIALE AT VINCENNES, PARIS. By Laprade and Bazin. "The Alliance of Architecture with Sculpture, perhaps prophetic of the future."

THE ROYAL ACADEMY AND ART

By ISIS.

THE wide field from which the United Arts Exhibition (now open at the Academy) was garnered—24 art societies contributing to it—has added to the scope and interest of the Exhibition, and one cannot but be struck by the high level of its technical accomplishment. There are, of course, far too many pictures shown, and it would have been greatly to the advantage of the Exhibition to have shown fewer.

But a wider interest attaches to it than can be claimed for many of the annual Spring Exhibitions held at the Royal Academy. Such considerations might well occupy its councils, as to widen the basis would strengthen its claims to represent the creative arts. If criticism ended here we might well leave the Exhibition on a note of praise.

The Royal Academy and Craftsmanship.

While doing justice to the skill displayed, and we can hardly give too much praise to the efficiency of the work with which processes are concerned, there are more than 2,000 examples shown. What is the impression they leave on life? Is it, in reality, much more than that of a rather high-pitched facility of technique, of its time only? "the laborious effects of idleness," in the words of Sir Joshua Reynolds. This may seem unfair, were it not that, in the urgency of events, we are become realists to-day. There is so little to discover that it is difficult to take any memories away from the Exhibition. There is no twilight. Yet Goethe has said: "Art is a twilight." But here it is nearly all midday, without shadows. So light are the walls as a whole, that a dark picture by Rembrandt would have to be either skied or rejected! The critics' fiat has gone forth that the fashion of the time takes its art light and slight, so we find a fatigue growing on us as the result of thus surrendering the high prerogatives of art to the fashion of the hour.

This is not to challenge the technical achievement, which is highly skilled. But what is it all for? Where does the Exhibition touch life so closely that it "shows you things you never saw before," and "tells you things you never quite forget?" It is as though the arts had wandered from their own country to live in Time—a body without a soul, craftsmanship with but little art. Efficiency without feeling. Life without perfume. Art without a message.

The Administration of the Royal Academy.

At a time of growth and change, institutions are on their trial, and the United Arts Exhibition suggests to us the advantage of widening the base of the Royal Academy by bringing it into closer union with other societies. Some such affiliation should add to its authority. Were a member of the committees of each of these 24 contributing societies in some way more closely associated, a wider and more representative character would be given to the Exhibitions.

It is not our purpose to enter into the practical application of such proposals, which belongs to the Royal Academy itself. To interpret them in action will not be found easy, for there are difficulties to be faced. In the case of many of the art societies, and in order to gain sufficient funds, it is found necessary to introduce more members than their qualifications justify, so that both the standard of their work and of their prestige suffers. It is difficult, perhaps, to avoid this, but it is to be regretted. A scheme whereby it could be mitigated should be found. It is reasonable, however, to suppose that in that case their prestige would be higher. Nor does it seem that the difficulties with which the Royal Academy would have to contend weigh against the manifest advantages to their own claim to represent the arts. The present time admits of such reconsiderations, for we need the more timeless serenity of creative art to protect us from the domination of politics, for it perhaps will save us when nothing else can.

THE R.I.B.A. AMENDED FORM OF CONTRACT—II.

By W. T. CRESWELL, K.C., Hon. A.R.I.B.A., A.S.I., etc., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

CLAUSE 11. (Unfixed materials when taken into account to be the property of the Employer.) (See Article VI, August 11, 1939.) Under this clause of the Standard 1939 Form, where in any certificate of which the contractor has received payment, the architect has included the value of unfixed materials and goods intended for and placed on or adjacent to the works, such materials, etc., are to be the property of the employer. They cannot be removed without the authorisation of the architect in writing, but the contractor is to be held responsible for loss or damage to them. In the amended Form the contractor is not to be held responsible for loss or damage to these materials, etc., by or in consequence of hostilities or warlike operations. Further, sub-clause (g) of the new Clause 25 of the amended Form requires the contractor to obtain as far as practicable all materials and goods necessary for the completion of the works as soon as possible after the signing of the contract. Further, the contractor must deliver and keep them upon the site, though they may be stored upon the contractor's premises with the previous consent of the architect. In both cases the value of these goods and materials must be included in the materials and goods taken into account in certifying payments to the contractor in accordance with Clause 24 (b) (see Article XI, September 15, 1939) of the 1939 Standard Form. Clause 11 is to apply to such goods and materials as though the words *"or stored on the contractor's premises in accordance with Clause 25 (g) of these conditions"* were added immediately after the words *"placed on or adjacent to the works"* in Clause 11.

Clause 12 (Defects after completion) (see Article VI, August 11, 1939) deals with defects after completion. In the Amended Form a proviso is added to the effect that if the architect decides (at the request of the contractor or not) that, in his opinion, it is impracticable, owing to war or war conditions, for the contractor to make good any defects, shrinkages or other faults in accordance with the clause, the *cost* of making them good is to be estimated and valued by the surveyor named in the contract. The prices are to be those ruling at the end of the Defects Liability Period (see Appendix), and the amount so ascertained is to be deducted from the sum otherwise due to the contractor, and the architect must issue the final certificate accordingly.

Clause 14 (c), Injury to Property (see Article VI, August 11, 1939). The Amended Form adds a proviso to the effect that nothing contained in Clause 14 is to impose upon the contractor any liability to insure against or to indemnify the employer against any injury or damage to any person or persons, or to any property, real or personal, caused by or in consequence of hostilities or warlike operations.

Clause 15 (Insurance) (see Article VII, August 18, 1939). Under sub-paragraph (A) of this clause, which applies to a new building, the contractor was under an obligation to insure against loss or damage by fire, in the joint names of the employer and himself, work executed and materials and goods upon the site, etc. By Clause 15 of the Amended Form, fire does not include fire caused by or in consequence of hostilities or warlike operations.

Clause 18 (Delay and extension of time) (see Article VIII, August 25, 1939). Under the Amended Form, delay caused by war or war conditions [this latter term, while it is not suggested that alternative wording might have been used, is certainly so widely drawn as to cover all eventualities] is to be a circumstance in consideration of which the architect must make a fair and reasonable extension of time for completion of the works.

It is conceivable that a long war might be a reason for a "reasonable" extension for the duration of hostilities. It is not easy to say when the notice to the architect, required by the clause, should be given to cover delay by "war or war conditions." Presumably it should be given immediately the contractor becomes aware of the impossibility of obtaining goods and materials for the execution of the works.

(To be continued.)

OBITUARY

W. F. T. Stewart, F.R.I.B.A.

MR. WILLIAM FRASER TYTLER STEWART, F.R.I.B.A., whose death is reported, was associated, as a partner in the Glasgow firm of Andrew Balfour and Stewart, with the designing of many bank buildings, churches, and hydros throughout the country. He entered Mr. Balfour's office as a draughtsman, and after serving throughout the Great War he was taken into partnership by Mr. Balfour. He was a member of the Glasgow Institute of Architects, serving for several years on the Council of that body.

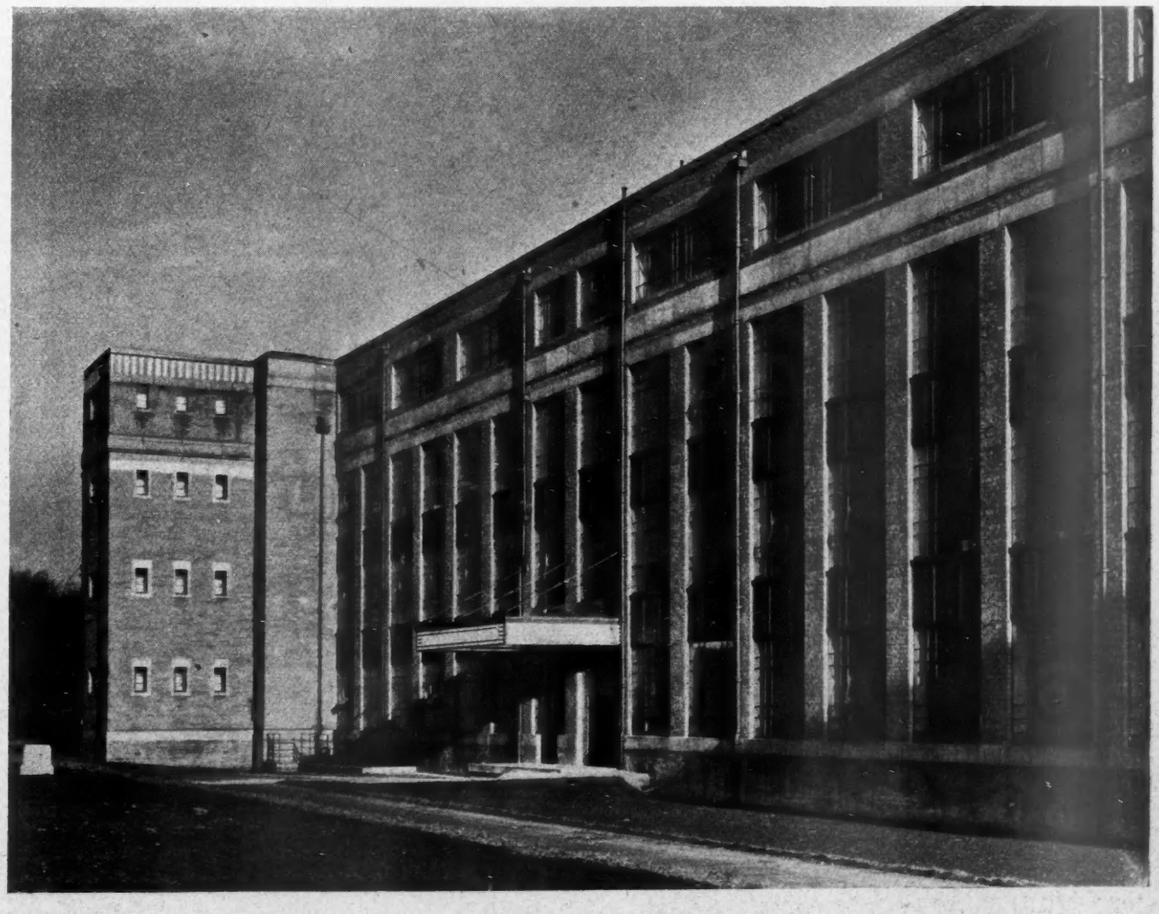
Northern Ireland War-Time Committee.

THE Northern Ireland counterpart of the British War-Time Committee of the Building Industry has now been set up. It consists of the following: Messrs. J. H. Stevenson, F.R.I.B.A., President of the Royal Institute of Ulster Architects (President); R. H. Gibson, F.R.I.B.A. (Royal Society of Ulster Architects); J. K. Stephens (Chartered Surveyors' Institution); R. B. Henry, D.L. (Belfast Builders' Association); D. A. Boal (National Federation of Building Trade Operatives); A. S. Atkinson (Cement, Fireclay and Timber Association); A. F. Shillington (Northern Ireland Steelwork Association).

BUSINESS PREMISES, BINGLEY ROAD, BRADFORD, YORKS.

MESSRS. CHIPPINDALE AND EDMONDSON, LL.R.I.B.A., ARCHITECTS.

THE MAIN (EAST) ELEVATION.



THE WEST ELEVATION.

BUSINESS PREMISES, BINGLEY ROAD, BRADFORD, YORKS.

The business premises in Bingley-road, Bradford, illustrated in these pages, are for Messrs. W. N. Sharpe, Ltd., fine art publishers. As shown by the layout plan, the buildings consist of business premises, canteen and sports pavilion, and three cottages, all of which are planned as a unified conception.

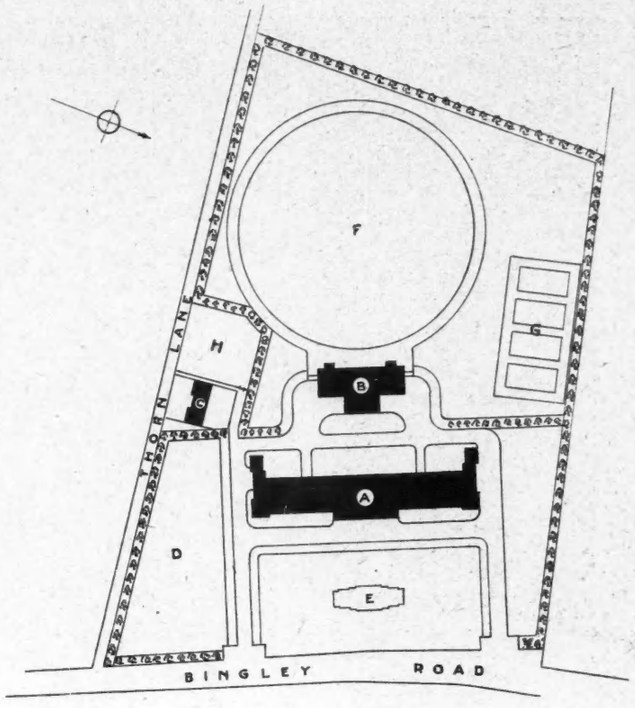
General.—The planning of the business premises was greatly influenced by the directors' decision that the offices must be placed on the ground floor, and in the centre of the building, as the nature of the business demands constant communication therefrom to the various departments. This does not interrupt the process flow, the raw materials being taken from the receiving room by the goods hoist at that end to the various production floors, and work their way along to the other end, where they descend by another goods hoist to the despatching department.

The works corridor between the general offices and the private offices is not for the conveyance of goods but is for the occasional use of ground-floor employees and the general use of the clerical staff. The passenger hoist off this corridor is for the use of the directors, managers and office staff. The request of the directors that their registered trade mark "Classic" should be expressed in the building is responsible for the design of the centre front.

Following are constructional details:—

Business Premises.—This is a steel-framed structure with foundations going down to rock, faced with clean-cut wallstones, cast-stone dressings, and steel-framed windows with cast-iron breast panels. The suspended floors are of the cross reinforced hollow brick type, and have a superimposed floating wooden floor. The floor finishings are: birch boards to the production departments; compressed cork tiles to the offices, corridors and studios; red asphalt to the cloakroom, receiving and despatching departments; and terrazzo to the employees' lavatories.

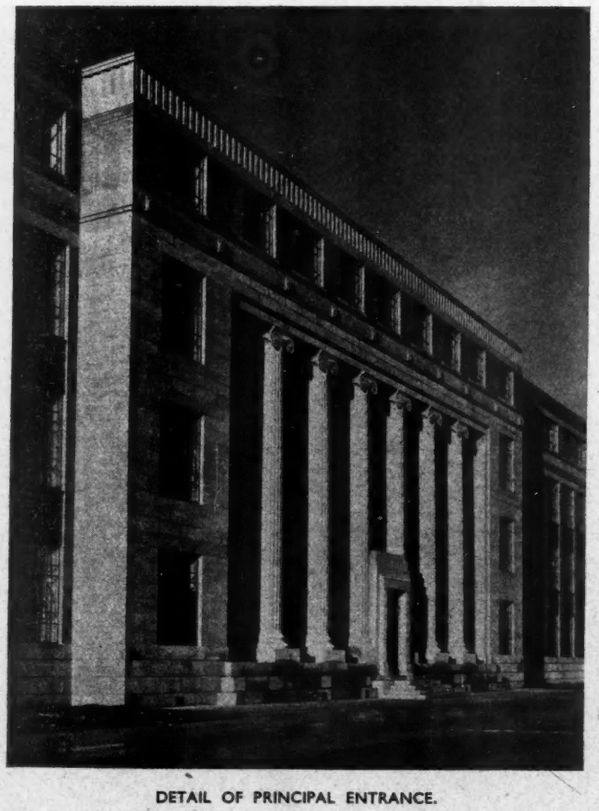
The internal faces of walls are as follows: hard wall plaster with high gloss synthetic paint to the production departments, cloakroom, studios and staff offices, finishing with tile plinths; the employees' lavatories are finished with terrazzo; and the entrance hall, showroom, private offices and directors' lavatories are panelled with various hardwoods. All internal woodwork—except the panelled rooms—is oak, natural colour, wax polished.



THE LAYOUT.

KEY TO LAYOUT.

A. Business Premises.
B. Sports Pavilion, Canteen, Garages and Car Park.
C. Three Cottages for Caretaker, Gardener and Engineer.
D. Rose Garden.
E. Lily Pool.
F. Cricket Ground.
G. Tennis Courts.
H. Nursery Garden.



DETAIL OF PRINCIPAL ENTRANCE.

Canteen and Sports Building.—This is a reinforced concrete structure, faced in a similar manner to the business premises. The suspended floors are of reinforced concrete with floating wooden floor. The floor finishings are: birch boards to the canteen, dressing rooms, etc., and "Adam antine" tiles to the kitchen quarters.

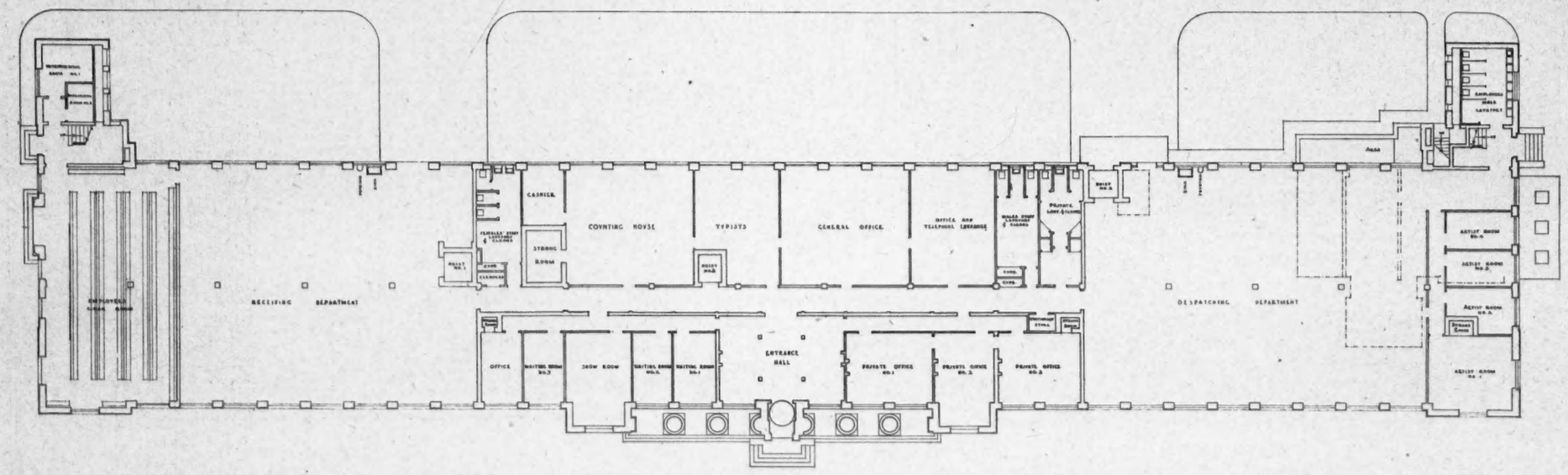
The roof is covered with green Westmorland slates. All internal woodwork is oak, left natural colour and wax polished. The internal faces of walls are finished with hard wall plaster, painted with high-gloss synthetic paint.

Cottages.—The block of three cottages is of the usual construction, with clean-cut wallstones, green Westmorland slates and painted redwood internally.

The general contractors were Messrs. Alfred Robinson, of Bradford. Sub-contractors and suppliers engaged were: cast stone, Girlingstone, Leeds; steelwork, Henry Barrett and Sons, Ltd., Bradford; reinforced concrete, Ferrocon Engineering Co., Ltd., Manchester; hollow tile floor and asphalt floors and roofs, Bolton and Hayes, Ltd., Bolton; sprinkler installation, Independent Sprinklers, Ltd., London; heating installation, Fred Watson, Keighley; electrical installation, W. D. Wilson, Bradford; steel windows, W. Walker and Co., Ltd., Bradford; panel breasts, Sloan and Davidson, Stanningley, near Leeds; layout of grounds and garden work, T. R. Hayes and Sons, Ambleside; marble and terrazzo work, Conway and Co., Ltd., Manchester; cork tile flooring, Cork Insulation Co., Ltd., London; panelling and furniture to private offices, G. Parnell and Co., Ltd., London; steel strong-room doors, F. Fox and Co., Ltd., Bradford; locks and door furniture, A. Carpenter, Bradford; blinds, Accordo Blinds, Ltd., London; revolving door, H. Shepherdson, Stockport; revolving shutters, W. F. S. Holt, Bradford; cooking equipment, Bradford Corporation Electricity Department; lifts, Reliance Lift and Engineering Co., Ltd., Bradford; and painters' work, Fred Holdsworth, Ltd., Shipley.

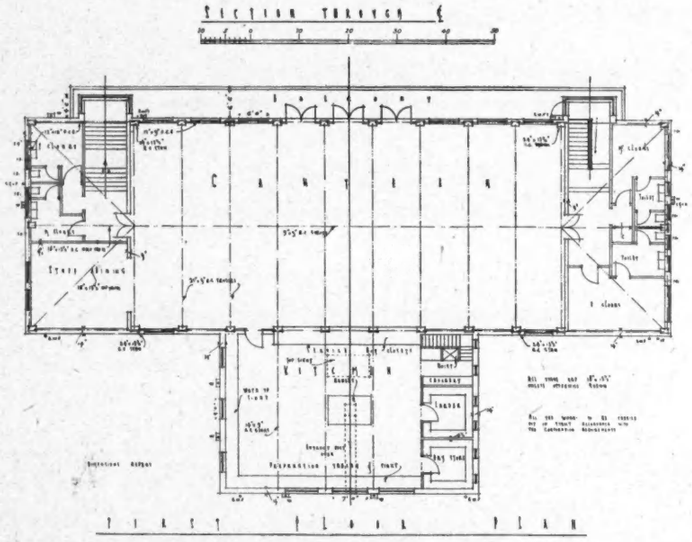
A TYPICAL UPPER FLOOR.

A SHOWROOM.

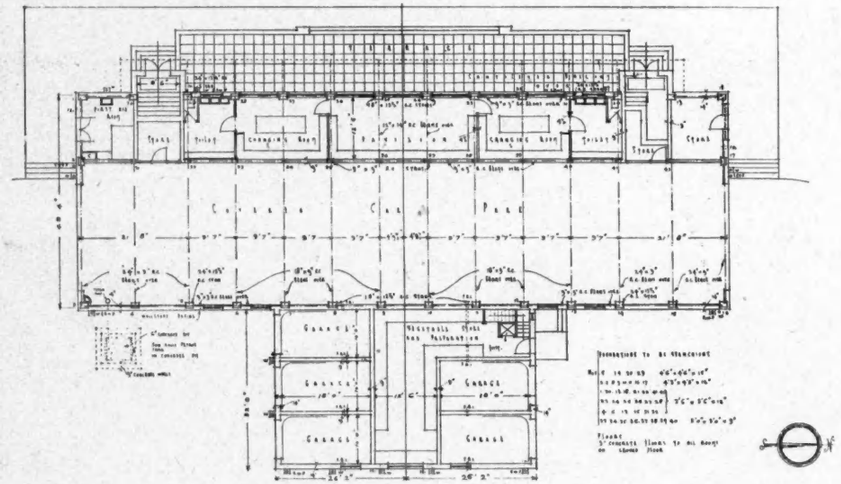


GROUND-FLOOR PLAN OF MANUFACTURING BLOCK.

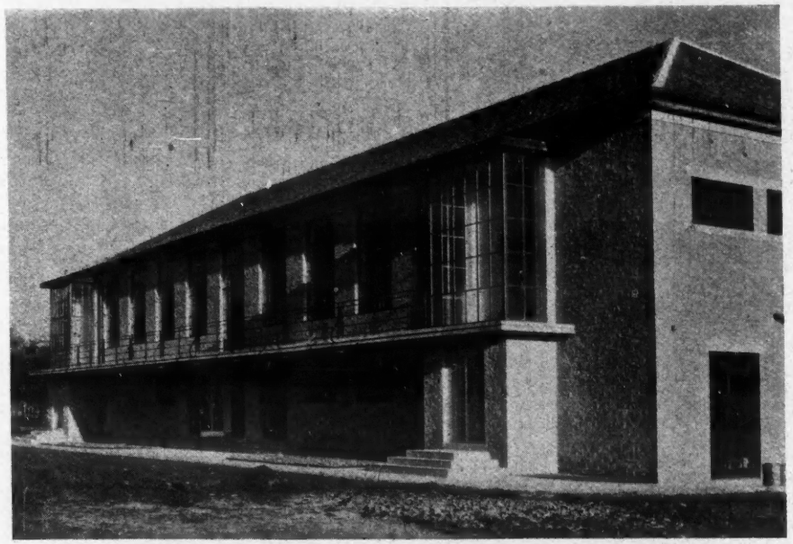
BUSINESS PREMISES, BINGLEY ROAD, BRADFORD, YORKS. MESSRS. CHIPPINDALE AND EDMONDSON, LL.R.I.B.A. ARCHITECTS.



FIRST-FLOOR PLAN OF CANTEEN AND PAVILION.



GROUND-FLOOR PLAN OF CANTEEN AND PAVILION.



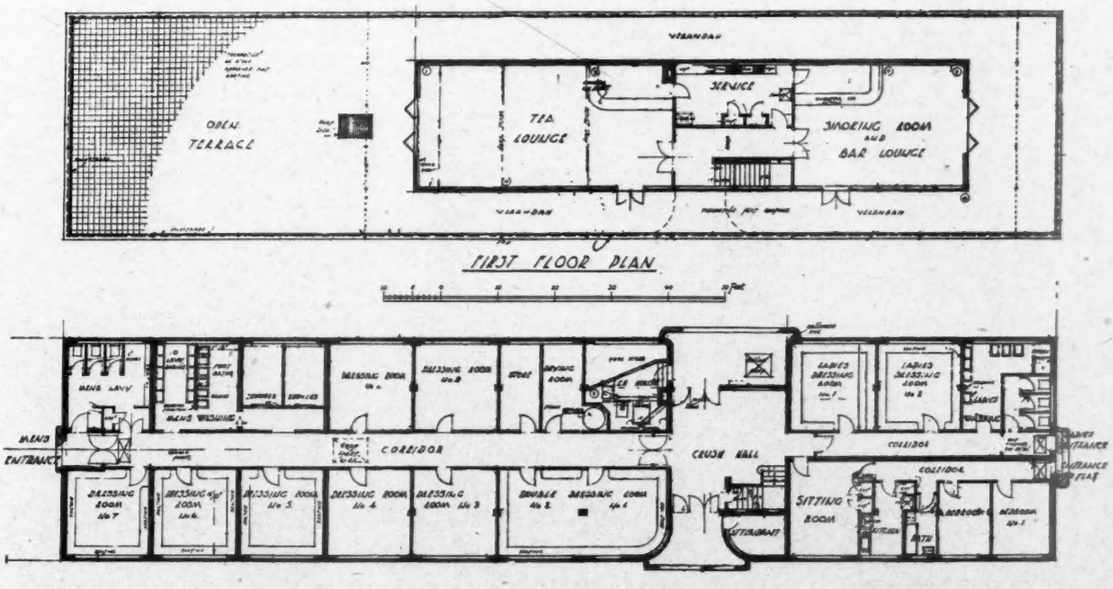
Above: WEST FRONT OF CANTEEN AND PAVILION. *Below*: CANTEEN.

BUSINESS PREMISES, BINGLEY ROAD, BRADFORD, YORKS. MESSRS. CHIPPINDALE AND EDMONDSON, LL.R.I.B.A., ARCHITECTS.

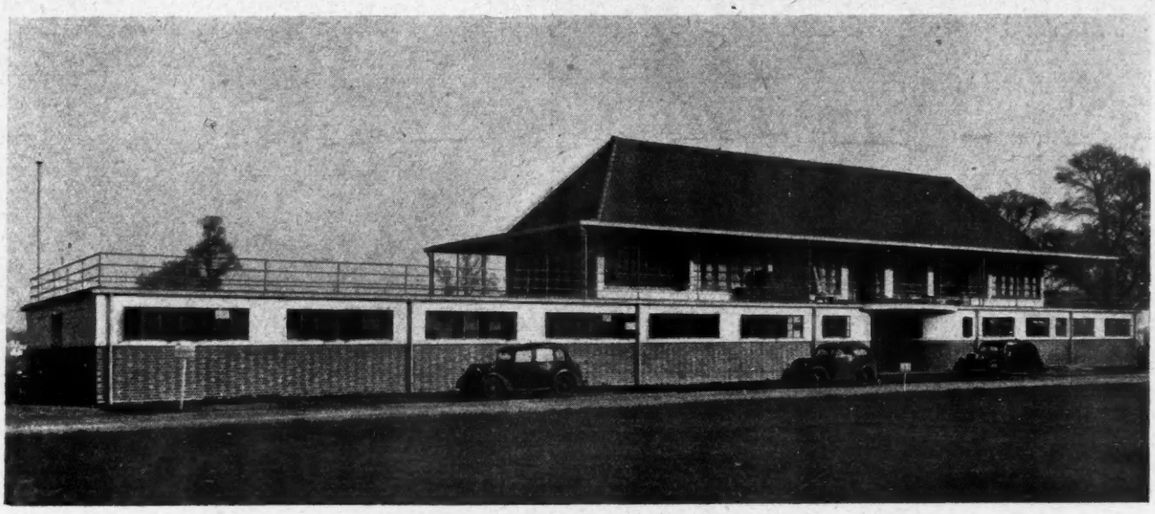
SPORTS PAVILION AT NORTHOLT, FOR KENSINGTON R.B.C.

MESSRS. A. MARSHALL MACKENZIE AND SON, FF.R.I.B.A., ARCHITECTS.

THE REAR ELEVATION, SHOWING SERVICE ENTRANCE.



THE PLANS.



THE PRINCIPAL FRONT, SHOWING MAIN ENTRANCE.

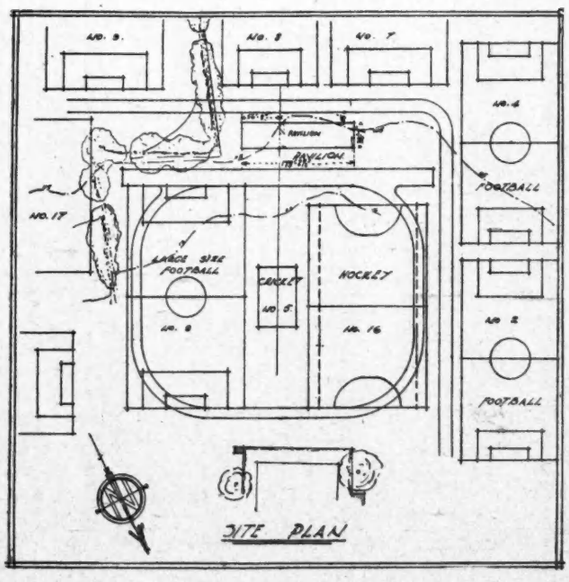
In pursuance of the National Fitness Campaign, the Kensington Borough Council have laid out playing fields, on a large scale, for the use of residents in their borough. This scheme includes football and cricket pitches, bowling greens, tennis courts, etc. We illustrate in these pages the pavilion designed by Mr. A. G. R. Mackenzie, F.R.I.B.A. (of Messrs. A. Marshall Mackenzie & Son, FF.R.I.B.A.) and carried out under the supervision of his partner, Mr. J. D. Hossack, F.R.I.B.A.

The typical pavilion plan, embodying a large central common room with dressing rooms opening off, has been abandoned, and instead the common rooms (consisting of tea lounge and smoking room) have been placed on a terrace formed over the top of the dressing rooms.

The dressing rooms for men and women are arranged on either side of the entrance hall, and as their area is considerably greater than that of the common rooms, an ample terrace is provided over them, partly covered and partly open. The tea room and smoking room have wide sliding doors at either end leading on to the terrace.

The whole design is somewhat reminiscent of a passenger ship with cabins below and state rooms and deck space over. All the building is centrally heated. The scheme is believed to be the largest carried out under the auspices of the National Playing Fields Association.

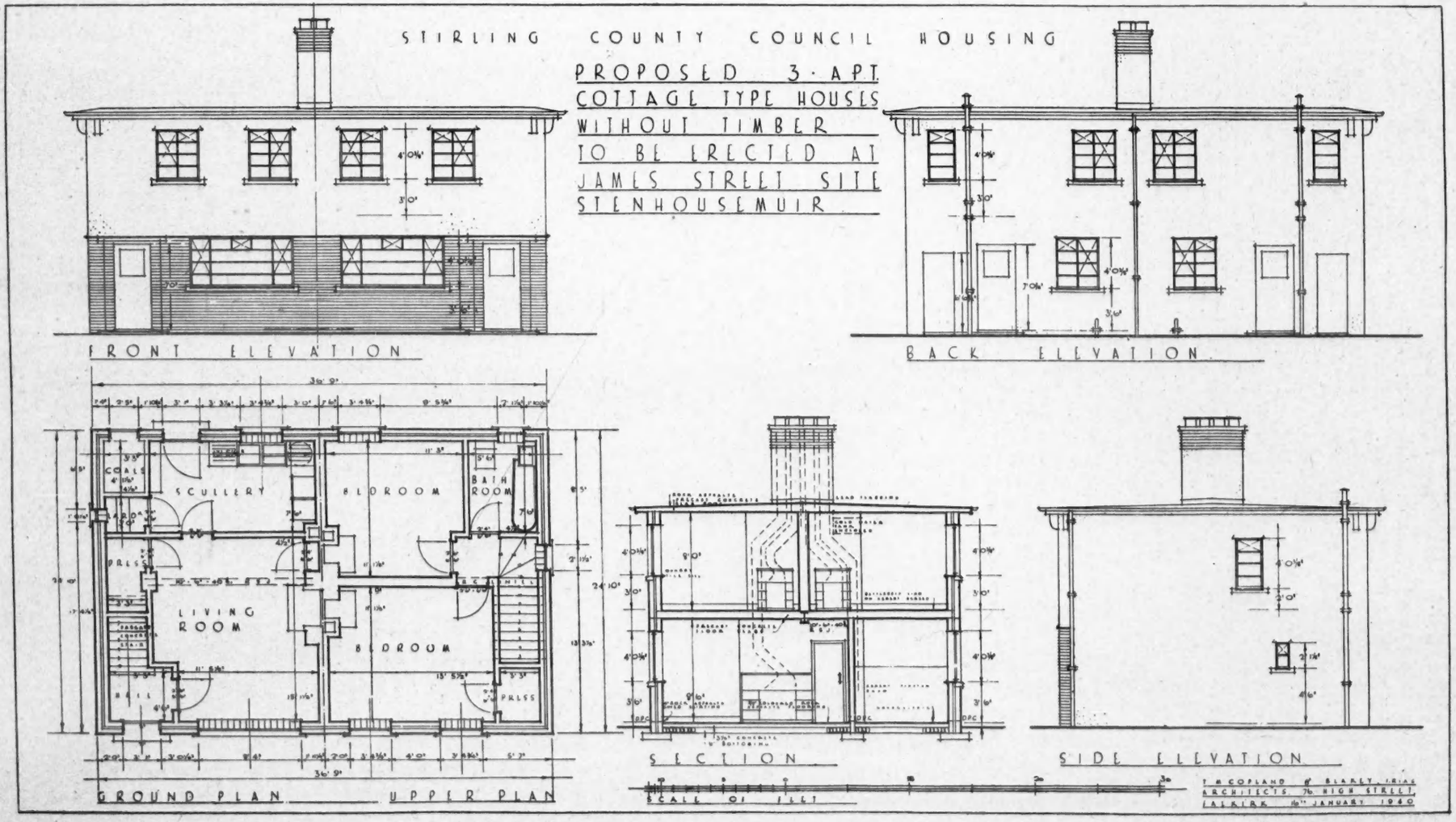
The general contractors were Messrs. W. T. Yates, Ltd., and sub-contractors and suppliers engaged were: steelwork, The Aston Construction Co., Ltd.; concrete floors, Windsor Floors, Ltd.; maple and birch block floors, The Wachal Floor Co.; windows, The Crittall Mfg. Co., Ltd.; sanitary fittings, Pontifex & Emanuel; heating and hot water, Rosser & Russell, Ltd.; electrical engineers, Duncan Watson, Ltd.; asphalt and "Valcotherm" tiles, Val de Travers Asphalte Paving Co., Ltd.; pantile roof, Finnis & Ruault; flat roof, D. Anderson & Son, Ltd.; plaster work, Carbo Plaster, Ltd., and Cement Marketing Co., Ltd.; ironmongery, Nettlefold & Sons, Ltd.; railings, Cashmore Art Workers; suspended ceiling, The Expanded Metal Co., Ltd.; sliding doors, Wm. Nicholson & Son, Ltd.; beer engine, W. H. Heath, Ltd.; loft ladder, Loft Ladders, Ltd.



THE LAYOUT.

SPORTS PAVILION AT NORTHOLT, FOR ROYAL BOROUGH OF KENSINGTON.

MESSRS. A. MARSHALL MACKENZIE AND SON, FF.R.I.B.A., ARCHITECTS.



DESIGN FOR A PAIR OF "WOODLESS HOUSES," FOR STIRLING COUNTY COUNCIL. MESSRS. T. M. COPLAND AND BLAKEY, F.R.I.A.S., ARCHITECTS.

Following submission of plans by Messrs. T. M. Copland & Blakey, F.R.I.A.S., and a consultation with technical officials of the Department of Health, Stirling County Council have decided to experiment with the erection of houses of the "woodless" type, and two houses will be built at Stenhousemuir. The houses will have a flat roof of concrete or cast iron covered with asphalt. There will be the usual hollow brick walls, plastered inside, while the doors will be of pressed steel with the frames and facings probably of pressed steel, cast iron or concrete. Cast iron or concrete can also be used for flooring, while the kitchen drip-board and such accessories will be of asbestos, the shelving of pressed steel, and the stair-rails of tubular steel. In every respect the houses will be built of existing materials, of which fairly abundant supplies can be had. Representatives of the cast-iron industry are examining the proposal with close interest, and are endeavouring to ascertain to what extent cast iron can be substituted for wood and steel in the construction of the houses.

THE RESISTANCE TO COLLAPSE OF STRUCTURES UNDER AIR ATTACK

By PROFESSOR J. F. BAKER, M.A., D.Sc., Assoc.M.Inst.C.E., M.I.Struct.E., of the Research and Experiments Branch, Ministry of Home Security—A.R.P. Department.

THE necessity of ensuring that the buildings in factories are as resistant as possible to collapse, when subjected to air attack, should need no stressing. While a direct hit on a factory can scarcely fail, by destroying plant or stores, to interfere to some extent with production, the damage will be much more widespread and costly if, at the same time, a main member is weakened and leads, as is possible, to the collapse of a large area of the structure.

Thanks to the somewhat conservative values of working stresses hitherto assumed in design in Great Britain, the great majority of modern buildings, though designed without any thought of attack from the air, will be comparatively resistant to collapse even when subjected to serious structural damage. Certain types could, however, be made much more resistant by slight amendments in design and detail which would not increase the weight of the structure appreciably.

No attempt is made in this note to deal with particular problems, but the attention of the designer is drawn to general points which he should consider when designing new structures, or when strengthening existing buildings.

The structures discussed fall into four main classes :—

(a) Fully-framed steel or reinforced concrete multi-storey buildings.

(b) Single-storey modern steel factory buildings.

(c) Older buildings, often partly framed and partly wall-bearing.

(d) Special types, such as erection sheds, with very long spans.

Fully-framed Multi-storey Buildings.

(a) Fully-framed steel or reinforced concrete buildings are comparatively resistant to collapse, since they are capable of adjusting themselves to heavy overloads for which they were not specifically designed.

(b) A near hit is unlikely to damage the main frame seriously. It may demolish panel walls. These may fall inwards and produce a debris load which may cause collapse of an already heavily loaded floor. Such a collapse will not be produced if the actual floor load carried is, as is often the case, considerably less than that for which the floor was designed. For instance, it has been possible to suggest, when dealing with basement shelters, that no strengthening of a framed building, steel or concrete, is needed :—

(i) where the actual load carried does not exceed 25 per cent. of the superimposed load for which the floor was designed; and

(ii) provided that the floor was designed for a load of at least 80 lb. per sq. ft.

In a factory the actual load may often exceed 25 per cent. of the design load, but that design load may greatly exceed 80 lb. per sq. ft. Where this is so, the percentage can be increased above 25 per cent. As a rough guide it may be laid down that where a heavy machine rests on a floor panel and imposes on that panel a load approximately equal to the design load, the structure below that floor panel should be strengthened. The structure can be most economically strengthened, where space is available, by propping main beams and floor slabs. In the case of reinforced concrete frames some care must be exercised in this propping, a knowledge of the position of the reinforcement being necessary, but the danger from high shear stresses at the prop is not so acute as is usually supposed. Tests are being carried out on the strength of propped reinforced concrete beams, and more definite recommendations will be available in the near future

(c) While a direct hit may wreck one bay of one floor, or more, complete collapse of a large part of the building is unlikely to follow even if some main members are cut. Debris is liable to fall in other bays, however, and to reduce the structural damage, strutting as described in (b) should be considered in inside bays, even though no panel walls can fall on them.

(d) The resistance to collapse of framed buildings is due to the continuity in these structures, which is of a high order even in a steel frame with the usual, comparatively light, cleated connections. It may be said that wherever continuity can be introduced it is desirable. For instance, in many factories there are gallery structures carrying machines, the beams being supported on steel stanchions. The beams are not usually continuous over the stanchions, but are connected into them or joined over them, as a rule, by web plates. If these connections were made to develop the whole strength of the beam, by welding or otherwise, resistance to collapse would be greatly increased, since, in many cases where this provision is made, complete failure of the beam would not follow even if a stanchion were cut.

Single-storey Modern Steel Factory Buildings.

(a) This very common type consists of lines of stanchions carrying roof girders—joist beams in small shops and heavy trusses in larger structures—on which the roof trusses rest.

(b) This type is not particularly vulnerable, but if an internal stanchion is cut the girders on either side will collapse, and may often involve an area of roof 100 ft. by 50 ft. or more. In many cases a hit from a large splinter would cripple a roof girder and might bring down the roof trusses supported on it.

(c) These structures could be made much more resistant to collapse. In new construction this would involve little or no additional expense. In existing shops, the alterations needed would depend on the details of the structure, but it should, in most cases, be possible to do a great deal at no great expense. Such work may necessitate the use of unorthodox joints.

(d) It must be remembered that these structures are designed to support the dead load of the roof, with wind loads and snow loads in addition, without a certain permissible stress, far below the yield stress of the material, being exceeded. What should be required of them in addition is the capacity of supporting the dead load of the roof only when any one stanchion or any one main roof girder is cut by a direct hit. In this condition the usual permissible stresses can be safely exceeded. The simplified methods of calculation used generally in design are not well suited for the determination of the capacity of the structure to stand when damaged. An examination of the real strength of the structure must be made. It should be remembered, for instance, that failure does not necessarily take place when the yield stress of the material is developed at one section. It is probable that in many cases no increase in the weight of material in the main structure will be needed to ensure that collapse does not take place when one member is cut. Details, such as the connections from beam to stanchion, will, however, need revision, and the most economical method will probably be to make the beams or trusses continuous over the stanchions.

(e) It has been stressed above that continuity is most desirable in structures which may have to resist air bombardment. The most efficient type is the rigidly-jointed frame or portal. The joints in steelwork can be made by riveting, bolting or welding. Attention should be paid to the possibility of using this form of frame construction. Many structural engineers have had no experience of this form and may be under the impression that it is difficult to design. Advances have, however, been made in recent months, and there are firms in the country capable of designing and fabricating portal frames quickly. Where heavy brick panel walls are demanded, as in certain vital buildings, their weight can be transferred to the bases of the stanchions, so making it possible to design the portals as fixed-ended. This leads to a considerable economy of steel.

Older Buildings.

(a) Many older buildings, multi-storey and single-storey, though having steel beams and internal stanchions, have the ends of the beams or trusses carried on load-bearing walls. In these cases a direct hit on such a wall would have disastrous effects.

Additional resistance to collapse can be given by the provision of stanchions to support the beams if the wall is damaged. The best position for these stanchions depends on the distribution of any heavy loads on the floors and, of course, on the space available. In general, the best position is not in contact with the wall.

(b) Similar features to that mentioned in (a) are sometimes found in other types of buildings. For instance, in one works inspected, a shop, mainly of reinforced concrete frame construction, was spanned by long steel joists supporting the roof trusses, the ends of the joists being simply supported on haunches formed on the reinforced concrete columns. This is clearly objectionable, as a near hit would displace the ends of the joists with disastrous results. In such a case the joists should be so restrained that they could not move laterally relative to the stanchions.

(c) There are many older types of building which are not satisfactory and which do not lend themselves readily to improvement. In general, as reiterated above, the best steps to be taken are to provide as much continuity and bracing as possible in the load-bearing part of the structure.

Special Types.

(a) Where there are excessively long span trusses supporting a roof, as in an erection shed, additional props may be needed owing to the danger of existing stanchions being hit or a joint or member in the truss being cut by a direct hit.

(b) The principle of continuity explained above should be used as a guide in designing the propping system. Here again the object is to prevent complete collapse. Local overstrain in members is not seriously objectionable, so that it may not be necessary to insert props under every panel point. Strengthening of joints and additional counterbalancing may further reduce the number of props required.

The greatest care must be taken to secure economy in this work. The structural designer, whose concern it has always been in the past to produce a structure with an adequate factor of safety, will probably not find it easy to consider with equanimity one on the point of collapse. There may well, therefore, be a tendency to overstrengthen the structure.

(c) Additional props and strengthening of the truss as suggested in (b) above appear to be preferable to the sand-bagging of existing members.

THE BUILDING TRADE

THE GENERAL POSITION.

"The marked decline in building activity imposed by official restriction continues," states the "Building Industries Survey," published by the Building Industries National Council, 85, Gloucester-place, W.1. "In spite of Government requirements, described in some quarters as 'enormous,' unemployment in the industry had mounted to 155,536 in mid-December.

The Council emphasises that this grave position is due to administrative action and not to the war as such. A deliberate policy of restriction of building is being pursued. The Council urges that the national interest points clearly to the need for a relaxation of the financial ban. Finance and industry are interdependent. Although withdrawal of facilities can damage building, a crippled building industry cannot possibly benefit financial interests or the community.

SOCIETIES & INSTITUTIONS

R.I.B.A.
Final and Special Final Examinations.

The R.I.B.A. Examination Board in India have arranged to hold the R.I.B.A. Final and Special Final Examinations in Bombay from April 19 to April 27. The last day for receiving applications, which should be sent to the hon. secretary of the R.I.B.A. Examination Board in India, "Gustad Chambers," Sir Pherozeshaw Mehta-road, Fort, Bombay, is March 19.

MANCHESTER SOCIETY OF ARCHITECTS.
A Luncheon.

Speaking at the luncheon on January 24, which the Manchester Society of Architects had substituted for its annual dinner, Mr. E. Stanley Hall, P.R.I.B.A., responding to the toast of "The R.I.B.A.," proposed by the President (Mr. C. Gustave Agate), said that architects knew that they had their own definite contribution to make to the nation's gigantic struggle, and were hurt that the powers that be had hitherto brushed them aside and failed to recognise and use the special technical abilities that architects claimed to possess.

"We have been politely told to run away and play," said Mr. Hall. "We have been told that there is no 'architecture' in huts or factories or encampments, and that such works are far better left in the hands of people who, for all their knowledge of the accommodation required, have no idea whatever of the problems of planning, and little realisation of the importance of the right correlation of the parts into an ordered whole, until the buildings are erected and the faults cry out."

Was it not planning, Mr. Hall asked, that was the essential requirement in all the vast schemes now being carried out? No general would launch his troops into battle without a plan, but many generals seemed to be embarking on vast encampment schemes before the plan had been worked out or the orders had been fully developed.

The speaker gave some account of what was being done by the Government in France to organise every part of the building industry, its man-power and its materials, in an effort to win the war and to prepare for post-war needs. Could not the Government in this country, he asked, at least prepare for after-the-war works by having plans of quantities prepared ahead and so prevent the time-lag which would otherwise delay all resumption of work.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS.
Re-election of President.

The Council of the Incorporated Association of Architects and Surveyors, at its meeting on January 27, re-elected Mr. J. E. Swindlehurst, M.A., F.I.A.S., as President for the ensuing year. Sir Charles Allom was elected Chairman of Council, and Mr. V. S. Peel, F.I.A.A., of Birmingham, as Vice-Chairman.

London and Home Counties Branch.

At the last meeting of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors, it was decided to resume activities as far as possible and, in consequence, several lectures have been arranged for the near future.

The first of these will be held at headquarters, 75, Eaton-place, S.W.1, at 7 p.m., on February 21, when Sir Alfred Hurst will give a lecture on "The Building Industry in War and Peace." A further lecture dealing with the uses of asphalt will be given and will be illustrated by a film on March 20. A visit has been arranged to Messrs. Doulton's new offices and studios for April 12.

The Rifle Club connected with the London and Home Counties Branch has been reorganised, and its activities will be resumed immediately.

The hon. secretary of the branch, Mr. G. W. Beach, will be pleased to supply invitation cards and any further information.

DANGERS OF SANDBAGGING

To the Editor of *The Builder*.

Sir,—I began to read Mr. F. R. Jelley's letter, published in your issue of January 19, on the subject of sandbagging, with interested consternation, but this changed to incredulity when I had read the fifth paragraph.

It is patently impossible for rubber flooring to vanish in the manner described, even although covered with sandbags filled with no matter what foul earth for no matter what period.

If the disappearing flooring is, or was, the property of your correspondent, he would be well advised to consult the police, as there is little doubt that some enterprising scrounger has been assisting nature and incidentally confounding Mr. Jelley.

W. T. Bonser.

Thames House,
Millbank, S.W.1.

This scheme for brightening the black-out has been devised and painted for the Building Centre in Bond Street by Miss Marjorie Morrison. The drawings are executed on blockboard.

TIMBER AND THE NATIONAL REQUIREMENTS

"LITTLE HOPE FOR CIVIL BUILDING."

Inability to make any reassuring statement that imports of softwoods contracted for with Canada would be devoted to civil building purposes, other than for what might be described as "munition towns" and for the completion of houses already in an advanced stage of construction, was expressed at a Press conference on Friday last by the Timber Controller (Major A. I. Harris). The Controller, who made it clear that he was merely expressing a personal view, added that timber prices were likely to increase in the near future.

The Timber Control's policy, said Major Harris, had been to conserve timber, especially softwoods. The bulk of supplies had been cut off from the Baltic; this applied equally before the Finnish-Russian war. Since the Ottawa Agreement in 1932, however, there had been developed great sources of supply from Canada, whose resources of hard and soft woods were absolutely limitless. But in view of the need to conserve shipping in time of war, it was necessary to exploit our native resources, and for that reason it was a national duty for land and estate owners to sell their mature standing timber and also such trees as were suitable for pit-props. As the prices fixed for standing timber at the beginning of the war would not be altered in favour of the owners, the latter had nothing to gain by holding on to their woodlands. The Forestry Commission were charged with the duty of stimulating production, and the Licensing Control of the Timber Control were prepared to grant licences to use home-grown timber more freely than for imported timber.

In view of the shipping problem, the Government's policy was not to use a single ship for timber so long as other essential war materials were needed. They were, however, negotiating with the Canadian railways to transport timber from the British Columbian sources overland to the Atlantic seaports. This would reduce the shipping time considerably.

The Controller then reviewed the national needs for timber in the prosecution of the war, and stated that economies in use had been effected which would save £2,000,000 in the first year of the war. The needs of the Services were, however, enormous, and would necessarily be satisfied at the expense of civilian consumption. The country could rest assured that the timber stocks were being used to best effect. All Government demands for war purposes were scrutinised by the Economy Branch of the Control; that branch was no respecter of persons, but was as strict with State Departments as with manufacturing trades. One result had been that one Service Department had scrapped its normal specification for buildings and had substituted one which made use of emergency materials.

In reply to questions, Major Harris stated that purchases of timber contracted for overseas amounted to between £17 and £18 millions. Its apportionment, as it arrived, was being discussed by the Control with the Timber Trades Federation, and certain major questions had yet to be decided. Forms would be sent out to the trade within a few days, however, to enable firms to apply for a quota.

THE POURED CELLULAR CONCRETE SYSTEM OF HOUSE BUILDING

THE housing shortage in Scotland has for many years been most acute. An investigation by H.M. Department of Health disclosed a shortage of over 250,000 houses. Allowing for a maximum output of about 20,000 houses per annum, it was quite clear that some method of construction in addition to brick and stone, would have to be adopted if the shortage were to be overtaken within a reasonable time.

With this object in view the Commissioner for the Special Areas in Scotland set up the Scottish Special Housing Association, having as its principal function the building of houses by "Alternative Methods," *i.e.*, methods other than brick or stone.

Poured concrete in some form was one of the methods which would meet the requirements of the situation, and as poured cellular concrete had given satisfactory service when first used on a small scale some 15 years ago, it was decided to develop this method on a larger scale, taking advantage of the improvements since made in special plant.

Cellular concrete may be described as a monolithic, lightly reinforced construction, in which the concrete is composed of an aggregate of stone, gravel or clinker, of about $\frac{3}{4}$ in. maximum size, from which all material finer than $\frac{1}{4}$ in. has been removed. The aggregate is coated with a thick cement paste, having no surplus liquid. The voids formed between the particles of aggregate prevent the passage of moisture by capillary movement and produce a concrete of very good insulating properties, a thickness of 8 in., it is claimed, being at least equal in this respect to 12 in. cavity brickwork.

The proportions of cement to broken stone were at first 1 cement to 8 stone; this was later reduced to 1 to 10. It was found that as the quantity of aggregate was all gravel with no sand, the latter quantity of cement was ample. Larger quantities of cement only tended to clog up the interstices of the concrete upon which the wall depends to prevent the passage of moisture by capillary movement.

Outer walls can be built "solid"—that is to say, there is no cavity as usually understood, the usual thickness for two-storeyed dwellings being 8 in. All internal partitions are 4 in. Chimney-breasts of any usual size are poured, with fireclay flue linings *in situ*.

Roofs of all the houses built had the ordinary pitched roofs, with slates and tiles on wood rafters and sarking boards. The floors, also, were of the ordinary wood construction. The system of walling is quite suitable for any type of concrete floor and flat roof construction. The shuttering provides for the support of special forms for the flat horizontal surfaces, of the same standard units of width and length, corresponding to the same dimensions as the walls.

All the floors and roofs happened to have had their timbers in place when the Timber Control came into operation. Alternatives were not, therefore, necessary for this part of the work.

Cellular concrete is unusually rough in texture and affords an excellent key for roughcast or plaster without further preparation if these finishes are required for æsthetic reasons. For simple buildings of industrial or commercial use a brush coat of cement and sand is sufficient.

The strength of cellular concrete is not, of course, equal to ordinary 4 : 2 : 1 dense concrete; it is ample for all domestic and light industrial work, but should not be subjected to concentrated loads.

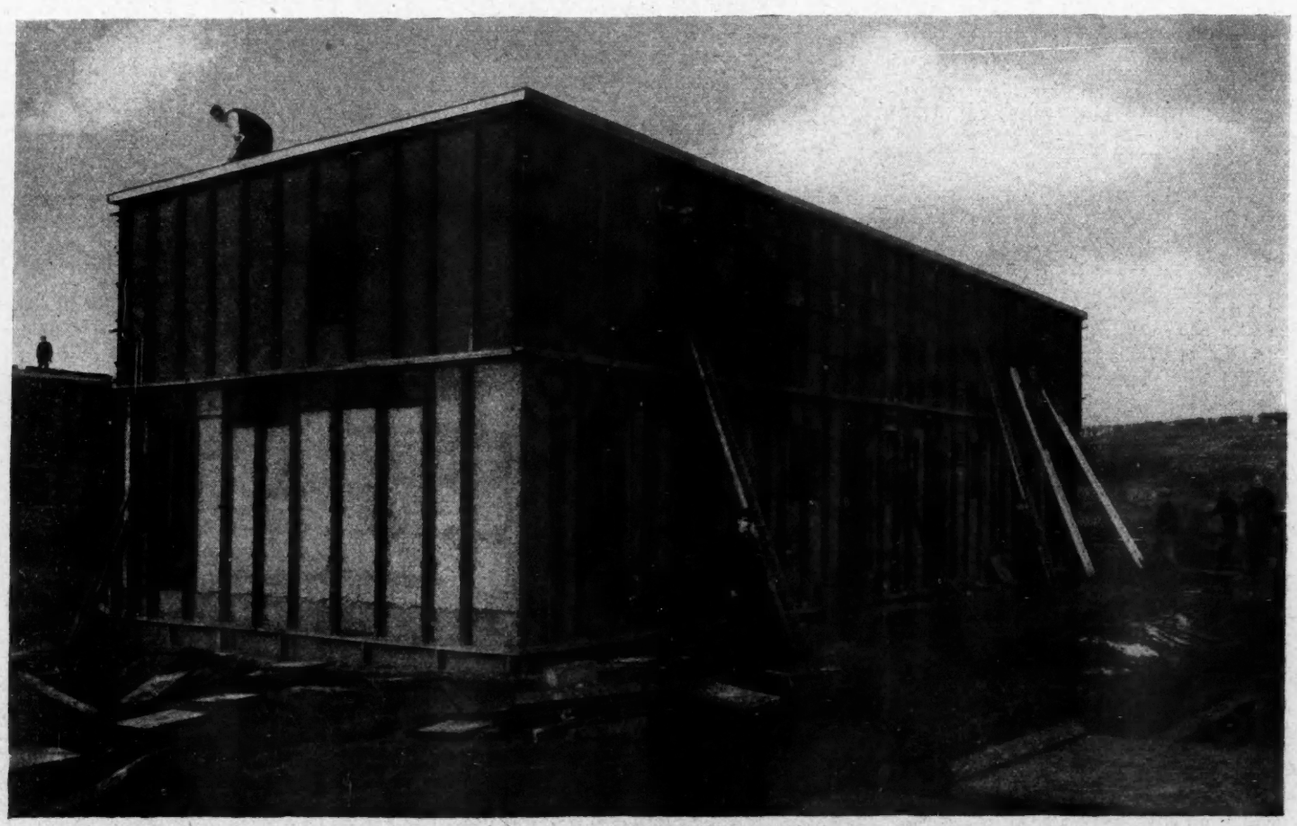
Most concrete work depends to a considerable extent for its economy on the cost of shuttering. For housing work extreme flexibility of shuttering is necessary. Housing schemes usually contain many different designs, usually varied on each site to suit changes of aspect, varying levels of ground, number of rooms required in each house, architectural amenities, and so on. The system must permit all these requirements to be satisfied with the same shuttering.

The absence of a cavity, which is not required for cellular concrete, simplifies shuttering problems for this material, as only two surfaces, instead of four, have to be provided. The Scottish Special Housing Association adopted a system of shuttering, invented by the writer, consisting of wood posts and light steel panels attached to the posts in such manner that any panel could be withdrawn without disturbing the posts. Posts are erected all round the building on each side of the walls, partitions and chimney-breasts, and sufficient panels are provided for one storey only.

Any length or thickness of wall from 4 in. upwards may be built with the same units of shuttering provided the rooms are rectangular and of multiples of 4 in. in length. Posts are erected at irregular spacings—not predetermined—of the full height of each storey. Door frames, window frames, ventilators, etc., are all placed within the shuttering, and as they are concreted in they need no other fixing. Doors and windows can be of any length or width and be in any position in the building or vary in position from one house to the next without affecting the shuttering.

The shuttering is self-supporting without external strutting and is strong enough to carry the joists and roof whilst the concrete is hardening.

Concreting is done a storey at a time from platforms laid upon the joists above the storey being concreted. All the walls, partitions and chimney-breasts of the block must be poured during one day. First-class organisation, it will be apparent, is required to achieve this, but as the system is very simple and repetitive it is quickly learnt. On two sites of over 200 houses each, comprising pairs of cottages, blocks of four and six cottages, and blocks of four flats, concreting of walls has never taken more than the normal working day to complete. The usual output has been a storey a day, every day, although none of the men employed had any previous experience of the



SHUTTERING IN POSITION FOR CONCRETING UPPER STOREY OF A BLOCK OF FOUR COTTAGES.

system. About 95 per cent. of the men were unskilled.

The illustration shows shuttering in position ready to concrete the upper storey of a block of four cottages. Steel panels for the lower storey have been removed the day after concreting and used for the storey above. Posts for the lower storey remain in position for about two days after the concrete of the upper storey has been placed.

Probably the minimum size of job on this system that should be undertaken is 250 houses on one site, or the equivalent of other buildings. The wear and tear on the shuttering is, however, comparatively slight, and a complete unit will build at least 1,000 houses without renewals. If more simple structures, such as huts, barracks, canteens, hospitals, stores, etc., were undertaken the life of the shuttering would be extended.

Reinforced concrete floors and roofs of the usual dense concrete are provided for in the shuttering system, and the same units may be employed. The absence of loose parts facilitates the interchange of shuttering units from walls to partitions or floors without alteration, and as the only erecting tools used are a hammer and a wrecking bar the work is classified as unskilled.

With requisite plant and good organisation an output of upwards of 1,250 cubic yards per week in 12 in., 8 in. and 4 in. walls and partitions has been obtained from labour not previously employed in this class of work.

LEONARD J. POND.

[We are informed that the English rights of the patent upon which the shuttering system is based are for sale.—ED.]

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of War-time difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped and addressed envelope.

Partnership or Private Company?

SIR,—*I should be glad of advice on the merits or otherwise of turning over from a normal partnership and forming a small private company with a capital of, say, £6,000. I am a partner in an old-established business. I have a fair amount of property outside the business and feel I should limit my liability and thus safeguard my purely personal assets, but my partner can only view the scheme as a waste of money. As I cannot see any risk of our ever going bankrupt I am wondering what other beneficial points can be put forward in favour of a company—being equal partners we are stuck on this point. I feel it would put the business on a better and clearer footing, but my partner says "We are quite all right, so why waste £100, or perhaps £200—what shall we benefit for having spent this money?" Your readers' views, or those of a contributor, would I am sure be of interest to our trade, and it may help us to solve the question.* B.

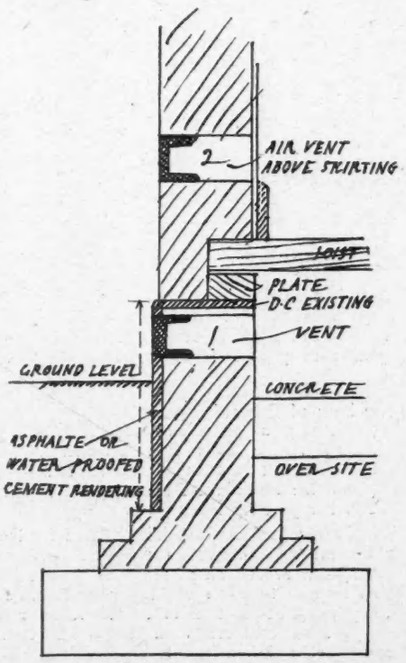
A special correspondent writes:—

In a partnership, each partner is an agent for the firm within the scope of the partnership business. It follows that each partner is, in general, liable for the wrongdoings of each of the other partners, within the scope of the partnership business. The main thing to remember in a partnership is that there is an unlimited liability on each partner; whereas a company can be (a) unlimited, (b) limited in liability to amount of shares, (c) or limited to amount of guarantee. It follows, therefore, if the inquirer desires to safeguard his own personal property, he should proceed to end the partnership (whilst complying, of course, with the terms of the partnership deed) and form a private company. The only thing for a partner (a builder) to do nowadays in order to safeguard himself is to proceed on the above lines, even, too, if some cost is incurred by doing so.

Damp in a Bungalow.

SIR,—*Will you please satisfy me as to whether I am right or wrong in supposing that continual dampness on the exterior walls of a new bungalow I am living in is due to the cement rendering being carried above the dampcourse as shown in sketch (not reproduced) or comes from other causes? The builder states it must be due to atmospheric conditions. I have asked him to cut away the rendering which is above the damp-proof course, but he is still arguing, so I shall be glad of your opinion.* E. B.

G. W. H. writes: I submit the following sketch as to how the dampcourse and the air vents should be done; you will note there are two air vents. The first is below the internal floor level, and should appear in all the walls to create a current of air, in and out of the space.



The second air vent is just above the level of the skirtings; there should also be a corresponding one at ceiling level. (Of course, I refer to external walls.)

With reference to the rendering, this should be in mastic asphalt. A cement rendering may crack and let in the water, but if employed it should have a waterproofing material incorporated. This cement facing should be done in coat work and tucked into and incorporated with the dampcourse and *not above it*. It will also be noted where the normal level of ground should be. The object of using mastic asphalt is that it is more elastic and does not crack.

[A number of other inquiries have been answered by post.—ED.]

IN PARLIAMENT

Central Control of Building Industry.

MR. D. ADAMS asked the Minister of Health whether it was his intention to set up a central control for the building industry, as building had been brought virtually to a standstill, and unless comprehensive steps were taken to ensure its continued employment, serious difficulties would be experienced with regard to working-class houses and other buildings when these were required.

MR. ELLIOT said that there was already a central co-ordinating body dealing with building works in which the Government was directly or indirectly interested. It was the Works and Building Priority Sub-Committee under the chairmanship of the Parliamentary Secretary to the Ministry of Labour and National Service. The sub-committee was composed of representatives of all the contracting departments and of those departments like his own, which, while not placing contracts themselves, were closely concerned with building works. The sub-committee had the benefit of the advice of employers and workpeople in the industry. He fully appreciated the desirability of taking steps to ensure that, when the time came, normal activity in the erection of houses and other buildings could be resumed without delay.

Alternative Materials.

SIR P. HURD asked the Minister of Health if, in view of the shortage of timber, he was advising local housing authorities in the use of alternative building materials of which there was an ample supply.

MISS HORSBRUGH said that in the special cases in which the Minister had found it possible to approve the building of houses by local authorities his approval had been subject to the plans being drawn so as to reduce the amount of timber required to a minimum and, in order to give balanced employment to the building industry, to provide for the use, as far as possible, of all the other materials of which a house was normally built.

Review of the Industry.

SIR W. EDGE asked the Minister of Labour when the Government expected a report of their investigator on the condition of the building industry in relation to Government and other needs; and whether, if this document had not yet been handed in, he could expedite delivery.

MR. E. BROWN said that Sir Connop Guthrie, who was giving his services voluntarily to the Government, was appointed to undertake a continuous review of the position in the building industry, including civil and industrial needs, for the information of the Government. He was in constant touch with the Works and Building Priority Sub-Committee, which was an integral part of the general priority organisation of the Government and which dealt with matters within his terms of appointment. In those circumstances it was not contemplated that any formal report would be published.

Co-operation with the Government.

MR. MANDER asked the Minister of Health what replies had been sent to the offers of assistance to the Government from the Building Industries National Council; and whether it was the desire of the Government to co-operate with this body to the fullest possible extent.

MR. ASSHETON, Under-Secretary to the Ministry of Labour, said that a deputation from the Building Industries National Council was received by the Minister of Supply on January 11, when the problems of the industry were fully discussed and the representatives of the Council offered to co-operate with the Government in an advisory capacity. The Works and Building Priority Sub-Committee, which was an integral part of the Government's priority organisation, already had the benefit of the advice of representatives of employers and workpeople in the building and civil engineering industries. The question of bringing members of the Council into consultation was at present under consideration.

LAW REPORT

BUILDING SOCIETY'S ACTION ON MORTGAGE. ALLEGATION OF INVALIDITY. THE BUILDERS' "POOL."

COURT OF APPEAL.

Before LORDS JUSTICES SLESSER and LUXMOORE and MR. JUSTICE ATKINSON.

Halifax Building Society v. Salisbury.

In this case Mr. Joseph Salisbury, the defendant, appealed from the judgment of Judge Drucquer, sitting at the Brentford County Court, giving the Halifax Building Society possession of a house and dismissing Mr. Salisbury's counterclaim.

The facts of the case were as follows: In May, 1933, Mr. Salisbury entered into two agreements with a firm of builders, one being for the purchase for £50 of a plot of land on an estate which was in the course of being developed by the builders, and the other for the erection by the builders of a house on the plot for £425. It was a condition of the arrangement that Mr. Salisbury should make a small cash payment and that the balance should be obtained from the plaintiff society on the security of a mortgage of the land and house for £452 8s., repayable by monthly instalments as provided for and in accordance with the Society's rules.

The builders had previously arranged with the Society that in the case of every mortgage effected by the Society in respect of houses on the estate, where the amount secured was equal to 95 per cent. of the value of the house and land mortgaged, the amount of the moneys advanced, not exceeding in the aggregate a sum equal to the difference between the sum actually advanced and 75 per cent. of the value of the house and land mortgaged should be collaterally secured by the personal guarantee of two directors of the firm of builders, together with a charge on a fund which was referred to as "the pool," which was built up and fed by cash payments decreasing as the total amount of the "pool" increased.

In September, 1933, the mortgage in question was executed between Mr. Salisbury as a member of the Society and the Society. It recited, *inter alia*, that the advance of £452 8s. was the amount to which Mr. Salisbury was entitled under the Society's rules in respect of the shares he held in the Society, and that the Society had agreed to advance that sum on having the repayment of the principal and interest secured in the manner thereafter appearing. Clause 2 provided that the sum was repayable in 18 years 10½ months, and by Clause 3 Mr. Salisbury covenanted to pay the prescribed monthly instalments on the appropriate days. By Clause 4 Mr. Salisbury demised the house and land to the Society for a term of 3,000 years, subject to a proviso for a cessor of the term on payment of all moneys payable for the redemption of the mortgaged property.

There was no reference in the mortgage deed to any collateral security.

Upon the ground that Mr. Salisbury had made default in payment of his instalments, the Society in March, 1938, began proceedings against him for possession of the house and land, claiming that he had terminated the tenancy by notice to quit, dated July 15, 1937.

Mr. Salisbury, in his defence, alleged that 20 per cent. of the advance was made on collateral security in the shape of the "pool" arrangement between the Society and the builders, and he complained that he was never informed of that fact. He said he was induced to enter into the mortgage by the fraudulent misrepresentation of the Society and that the mortgage was in the circumstances *ultra vires* the Society as being in breach of Section 13 of the Building Societies Act, 1874.

Mr. Salisbury also counterclaimed for damages and claimed a declaration that the mortgage was void.

At the conclusion of the arguments the Court dismissed the appeal.

Lord Justice Slesser, in giving judgment, said that the absence of knowledge by the mortgagor of the collateral security was immaterial in considering the validity of the advance, though if the advance on the security of the land was not as stated, but was a mere cloak to enable the advance to be made on a personal security, it might be otherwise. But that was not this case. He came to the conclusion that the advance and mortgage were within the powers of the Society and valid. He also was of opinion on the evidence that Mr. Salisbury failed on the allegation that he was induced to enter into the mortgage by false and fraudulent misrepresentation and that that defence failed. The appeal would be dismissed with costs.

The other members of the Court concurred.

Mr. Pritt, K.C., and Mr. Whitty appeared in support of the appeal; and Mr. A. Denning and Mr. Milmo for the respondent Society.

BOOK REVIEWS

London Building Acts (Amendment) Act, 1939. By W. T. CRESWELL, K.C., and NORMAN P. GREIG, B.A. (London: Eyre and Spottiswoode.) Price 15s. net.

The names of Creswell and Greig are well known to all concerned with building, who recognise them as leading authorities on matters concerning the legal aspect of building works, an aspect which, in London particularly, demands closer and closer attention.

The work is divided into two parts: First, an introduction which deals not only with the provisions of the new Act but also with those portions of the 1930 Act still unrepealed, and the by-law-making powers of the 1935 Act, which are considerably extended. The introduction, therefore, is a summary of the provisions of the London Building Acts as a whole.

The second part consists of the complete text of the Act, a reference necessary for all architects, engineers, surveyors and contractors. The index prepared by the authors is comprehensive and of the greatest use in finding the way about a new Act.

Added to the usual familiar subjects in the index are to be found some new ones, such as "barbed wire," "bazaars" and "broken glass"; on tracing these somewhat startling subjects, it is found that there are a considerable number of new matters with respect to which the London County Council may make by-laws in pursuance of the 1935 Act.

A. R. F. A.

The Law of Compulsory Acquisition of Land (including a selection from Reports of recent Arbitrations and Inquiries). By C. WILLIAM SKINNER, Barrister-at-Law. (London: The Estates Gazette, Ltd.) Price 17s. 6d. post free.

This is a new book and is written for local government officials, surveyors, property managers, accountants, students and others who require to know the law relating to the compulsory acquisition of land. It does not purport to compete with those exhaustive legal text and reference books which are used by members of the legal profession, but is intended for use by persons engaged in business and in the estate world.

All the various Acts which govern the position are dealt with—for example, the Lands Clauses Acts; the Acquisition of Land (Assessment of Compensation) Act of 1919; the Housing Acts; the Public Health Acts; the Town and Country Planning Act, 1932; the Restriction of Ribbon Development Act, 1935; and so on. There are two appendices, one setting forth reports of thirteen important arbitrations and inquiries, and the other containing the relevant parts of the various statutes dealing with this subject. A full index completes the work.

In every way it is a book which can be recommended to architects and building contractors as a useful and up-to-date handbook on this highly technical subject. W. S.

[These books may be obtained through the Publisher *The Builder*, 4, Catherine-street, W.C.2].

BRICKLAYING IN FROSTY WEATHER

NOTES FROM THE INFORMATION BUREAU OF THE BUILDING RESEARCH STATION.*

IT is the usual practice in the British Isles to cease bricklaying in frosty weather because of the risk of injury to the work. In many cases, however, it may be desirable or even imperative that work should continue without interruption.

For this purpose, practice in countries such as North America (especially Canada) and Russia, where long severe winters are the rule, provides a lead. There it is found possible to continue building in winter, often at a temperature below zero, by taking a few simple precautions. These precautions were described by Gilbreth in an American work published thirty years ago, "Bricklaying System," Chapter XV, Methods of Laying Bricks under Special Conditions, and the methods may be summarised as follows:—

1. Keep the bricks as dry as possible.
2. Warm the bricks.
3. Use warm mortar.
4. Use clean sand, not "soft" sand.
5. Fill the top course of the wall solid at the end of the day's work, to keep out snow.
6. Cover the unfinished wall at night.
7. Use cement mortar.

The object of these precautions and possible methods of putting them into practice are discussed below.

1. If the bricks are kept dry in the stack and are not dipped, if it can be avoided, there will be a rapid abstraction of water from the mortar, creating voids in which ice can form without disrupting the setting mass.

2 and 3. The hardening of cement mortar practically ceases when it is cooled to 32 deg. Fahr. The hardening process must be encouraged to proceed uninterruptedly, for when a fair degree of strength is attained the mortar becomes practically immune from the effects of frost. Bricks may be warmed by piling them round a coke brazier. Sand can be heated either by thrusting into the sand a perforated pipe connected by a hose to a source of steam, or by piling it over a tunnel formed of corrugated iron in which a brazier is placed. The mortar can be taken by the bricklayer from a pan on a brazier, and could be at blood heat or warmer. If necessary, the water used in mixing can be heated.

4. Presumably the recommendation that "soft" sand should not be used is because it involves the use of more mixing water and the mortar hardens more slowly.

5 and 6. The importance of keeping the work as dry as possible cannot be overemphasised: it is brickwork which is saturated with water which is most likely to suffer from lifting and disintegration in frosty weather. Any form of covering will also reduce the rate of cooling of the wall, and this will be beneficial.

7. The advantages of relatively weak mortars for ordinary brickwork must be forgone in the special conditions of cold-weather bricklaying for the reason given in 2 above.

A deciding factor may be the difficulty or impossibility of the bricklayers continuing work with bare hands. This is not attempted in cold climates; ordinary gloves which restrict the circulation are unsatisfactory. Lined leather "mitts" are customarily worn, though bricklayers may find working with them awkward at first.

A rough tarpaulin shelter around the working point facilitates operations, especially in windy weather. In North America, under very severe conditions, the scaffolding is often enclosed with tarpaulins and stoves placed within the shelter; this may not be necessary in the relatively milder British conditions.

No tests have been made at the Building Research Station to try out the above methods, but as representing common practice in cold countries they may safely be taken as affording a good guide.

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A.R.P. SCHEMES

LONDON.

BARKING.—Regional Technical Adviser approved T.C. waterproofing further 500 shelters, at £3 per shelter. London Civil Defence Region approved lighting of trenches by electricity. Cost estimated at £3,391.

BEDDINGTON.—T.C. approved following contracts: R. Crittall and Co., Ltd., installation of heating and hot and cold water supply, Bute-road cleansing station; Ebdons, Ltd., seating in public air raid shelters; Helical Bar and Engineering Co., Ltd., reinforced roof, beams and stanchions, at Bute-road cleansing station, and London and Suburban Homesteads, Ltd., concrete lining of Anderson steel shelters.

CHELSEA.—B.C. approved detailed plans for use of part of Carlyle school as depot and cleansing station, to replace depot at Hudson's Depositories; £600 has been sanctioned by Home Office.

CHESHUNT.—Tender of Trout and Dilloway, The Elms, Cannon Hill, N.14, at £1,885, accepted by U.D.C. for report centre and cleansing station.

DAGENHAM.—Approval received from M.T. by T.C. to erection of four surface shelters on north verge of Eastern-avenue at junction with East-road. Plans passed for May and Baker, Ltd., for first-aid post, Rainham-road.

ERITH.—Air raid protection to be provided at Northumberland Heath central school, Picardy central school (old Central block), St. Augustine's-road junior school, for T.C.

FRIERN BARNET. — U.D.C. approved works of constructing four new shelters at Oakleigh-road by direct labour. Application from Middlesex E.C. approved for permission to construct trenches on ground adjoining rear of Cromwell-road Church of England School.

KENSINGTON.—B.C. recommend adaptation of disinfecting station at Wood-lane depot for decontamination of protective clothing.

KINGSTON. — E.C. approved further trenches at Richmond-road school and St. Paul's infants' school, and shelters for St. Luke's school and St. Peter's school, at £1,010. For construction of ambulance duty and control room at Fairfield Car Park, the tender of the Adams Construction Co., Ltd., at £190, accepted. For concrete hollow blocks for blast and splinterproof protection, in substitution for sandbags, the tender of Trianco, Ltd., of East Molesey, at 6s. 4d. per yard, accepted.

SOUTHALL.—T.C. resolved that plans be submitted informally to Middlesex C.C. for air raid shelter at isolation hospital.

TWICKENHAM.—T.C. accepted tender for approximately 41 shelters, by F. G. Knight, at £20 9s. 6d. each.

WEST HAM.—C.B. approved shelter at 384, Green-street for Boots Pure Drug Co., Ltd.

WOOD GREEN.—T.C. resolved that B.S. be instructed to proceed with additional air raid protection at Noel Park and Bounds Green schools. Plans passed for trench shelter and surface shelters at Neville House, Neville-place, for 117 persons, for Tynemouth House Management, Ltd., Tynemouth House, Tynemouth-road, Tottenham, N.15.

PROVINCIAL.

AYRSHIRE.—County E.C. agreed to spend £2.630 on erection of 14-in. brick walls for A.R.P. protection of six schools.

BINGLEY.—U.D.C. proposes shelters for 1,572.

BIRMINGHAM.—T.C. received £128,000 loan sanction for making schools safe, and £60,000 sanction for shelters at schools in neutral areas and £68,000 sanction for strengthening rooms at schools in evacuated areas. Contracts placed by T.C.: Decontamination station at Thornhill-road, Handsworth, police station, F. and A. Chapman, Ltd.; providing protection within buildings of schools in evacuation zone: Aston Hall-road, E. Jordan, £340; Rea-street, S. F. Swift and Sons, Ltd., £274; Tilton-road, E. G. Brown and Sons, £220; Vicarage-road, I. Langley, £460; Alma-street and George-street West M.D., C. Green and Sons, Ltd., £165, and £220; Steward-street, T. Elvins and Sons, Ltd., £192 10s.; Gem-street special school, W. J. Whittall and Son, Ltd., £163 8s. 3d.; Sherbourne-road M.D., J. Bowen and Sons, Ltd., £102; Bristol-street M.D., W. G. Robinson, Ltd., £148; Burlington-street M.D., A. Ashton and Son, £165; Bishop Ryder's C.E., W. J. Whittall and Son, Ltd., £118 17s. 6d.; Moseley-road deaf, Fitter and Son, Ltd., £139; Little Green-lane M.D., A. Pearce and Son, £200; St. Chad's R.C. and St. Peter's R.C., J. Bowen and Sons, Ltd., £337 and £217; Oratory R.C., Green and Sons, Ltd., £245; St. John's C.E., Spankhill, St. David's C.E., St. Saviour's C.E. and St. Clement's C.E., Maddocks and Walford, £153, £81, £93 and £139. All contractors of Birmingham.

BROMSGROVE. — R.D.C. proposes erection of 794 domestic surface shelters.

CLOWNE (Derbys).—R.D.C. propose construction of basement air raid shelters. W. J. Gallagher, S.

DERBY.—T.C. propose shelter accommodation at a number of schools. C. H. Aslin, Borough Architect. Contracts accepted for 35 wardens' posts: 7, Building Works Dept., £558; 11, R. Clayborn, Ltd., Shelton Lock, £1,034; and 17, W. Alton, Derby, £1,521.

DONCASTER.—Edcaster, Ltd., 88, Norwood-road, London, S.E.24, at £181 1s., have secured the contract for precast concrete trench units in Bawtry-road for C.B. Plans by B.S., 2, Priory-place.

GLASGOW.—Plans prepared by the Corporation architects for shelters in Anniesland-road and Knightswood-road.

GLOSSOP.—For shelters off Phillip Howard-road for T.C., tender of S. Goddard and Sons, The Ashes, Glossop, accepted. G. Faulds, B.S.

GOLBORNE.—For 35 shelters for U.D.C., contracts placed with: 12 shelters, H. Horridge and Co., Ltd., Newton-le-Willows, £1,334; and 23 shelters, G. and R. Shaw, Leigh, £2,673 10s.

GOSPORT.—E.C. decided to spend £3,688 on shelters and other protective works at schools.

HALIFAX.—Tenders accepted for: (a) 13 single-type surface shelters, each to hold 50 persons; (b) double-type shelters, each to hold 100 persons; and (c) 2 double-type shelters for T.C. (a) J. B. Brooke and Sons, Ltd., Huddersfield, £2,327; (b) T. Pickles and Sons, Bradford, £3,100; and (c) H. Blamaires, Wakefield, £289. Electrical work: J. Harrison and Co. (Halifax), Ltd., Halifax, £158, and Electricity Dept., Corporation, £187.

HINCKLEY.—U.D.C. propose 37 additional shelters. S. J. Featherston, E. and S.

JARROW.—T.C. to build by direct labour concrete A.R.P. shelter in Alfred-street, at £759.

JARROW.—E.C. to build surface shelters at St. Bede's junior school, at £1,200.

KEIGHLEY.—T.C. to provide shelter accommodation for additional 2,000.

LEIGH.—T.C. proposes auxiliary fire stations at Butts Bridge, Mable-crescent, and off Firs-lane.

MERIDEN.—R.D.C. proposes 8 trench shelters at Coleshill, Hampton, Castle Bromwich, etc., each to accommodate 50 persons. H. Pickering, E. and S.

MERIDEN.—R.D.C. proposes 2 A.R.P. fire sub-stations at Fillongley and Balsall, at £2,803.

MIDDLESBROUGH. — E.C. to provide shelters and refuge accommodation at schools. Cecil Gorman, B.E.

MIDDLESBROUGH.—Plans approved for shelter in Zetland-road, for Dorman, Long and Co., Ltd.

MIDDLESEX.—C.C. recommend a grant of £180 be made to the Managers of Wealdstone Nursery School for providing shelters.

MOSSLEY.—T.C. received £4.951 loan sanction for 23 shelters at Council schools.

NEWCASTLE-ON-TYNE.—City Council to build shelter at Smallpox Hospital, at £205. Plans by R. G. Roberts, City Architect, 18, Cloth Market.

NORTHANTS. — Emergency Committee proposes decontamination depots, at £2.657.

NOTTS.—For shelters at: (a) East Bridgford Church of England school; (b) Hucknall Spring-street school; (c) Colwick Vale Church of England school, for C.C., contractors accepted: (a) W. and F. Chell, Albert-road, West Bridgford, £500; (b) W. Brown, 21, Station-terrace, Hucknall, £1.190; and (c) Harper and Green, Ltd., Carlton, £215. Plans by E. W. Roberts, A.R.I.B.A., County Architect, Nottingham.

NUNEATON.—T.C. to seek £20,000 loan sanction for fire and ambulance station, Newtown-road, R.C. Moon, B.E. and S.

ORRELL.—For (a) 9 semi-sunk shelters, and (b) adaptation of Gathurst Bridge as air raid shelters for U.D.C., contracts accepted: (a) Nixon and Boardman, 48, Moor-road, Orrell, near Wigan, and (b) J. Gaskell, 21, Gauntley-road, Upholland, near Wigan.

ROWLEY REGIS.—T.C. received £17,500 loan sanction for shelters at council schools.

SEAHAM HARBOUR.—U.D.C. propose public and school shelters. J. B. Abbey, S.

SEDGLEY.—U.D.C. proposes adaptation and strengthening of over 550 basements for shelters.

SMETHWICK.—For underground shelters in Victoria Park, Lewisham Park, Oldbury-road, High-street, Bearwood-road and Cranford-street playground for T.C., contract placed with Andrew Blair Lyell and Co., Tyburn-road, Birmingham, 24, at £2,223. R. Fletcher, B.E. and S.

SOWERBY BRIDGE.—W. Parker and Sons, Ltd., Sowerby Bridge; Pickles Bros. (Builders), Ltd., Milethorne, Halifax, and Thomas Pickles, Midgley, Luddendenfoot, accepted for 9 public shelters for U.D.C. J. Normanton, E. and S.

STAFFORD.—G. Sandy and Co., North Walls, Stafford, at £420, and J. Ashton and Co., Ltd., Marston-road, Stafford, at £366, contractors for 14 wardens' posts for T.C. W. Plant, B.S.

STOCKTON-ON-TEES. — E.C. received M.H. consent to borrow £18,225 for protection work at schools.

STOKE-ON-TRENT.—T.C. accepted for cleansing depot at Federation-road, Burslem, tender of W. Leake and Co., Hanley, at £1,800, and cleansing depot at Booth-street, Stoke, the tender of F. C. Gibson, Ltd., Shelton, at £2,160.

TYNEMOUTH.—W. W. Ward and Son, North Shields, and Electric Equipment, Ltd., North Shields, contractors for electric wiring of school shelters for E.C.

WAKEFIELD.—W. H. Nicholson and Sons, Duke of York-street, Wakefield, and G. Crook and Sons, Ltd., Henry-street, Wakefield, at cost of £1,350, contractors for 12 communal shelters to serve the tenants of 250 bungalows for T.C. L. Ives, City E. and S.

WALLSEND. — E.C. accepted tenders from following contractors for protective measures at schools: R. A. Gofton and Son, Monkseaton, Whitley Bay, £2,302; E. Thompson, Newcastle, £504; A. Weir, Coachopen, Howdon-on-Tyne, £509; W. Leech, Ltd., Wallsend, £1,470; J. H. James, Wallsend, £1,220; T. Clements and Sons, Ltd., Newcastle, £1,029.

WEST HARTLEPOOL. — T.C. received approval of plans for 1,238 domestic surface shelters, at £18,746.

WEST STANLEY.—U.D.C. propose public shelters. J. R. Heslop, S.

F.B.I. AND WAR RISKS INSURANCE

In a letter to the Board of Trade on premiums to be charged under Part II of the War Risks (Commodities) Insurance Act, the Federation of British Industries strongly urges that for one month, starting from March 3 next, the existing amounts at risk should be covered without payment of any additional premium. It is pointed out that, when the scheme was inaugurated last September, at a time when immediate claims upon the fund were contemplated, it was considered sufficient to establish a fund equal to 30s. per cent. for the three-month period September 3 to December 2. Yet, by March 3, the date on which the next period begins, a fund will have been created equal to 35s. per cent. on the value of stocks insured.

The Federation further draws the attention of the Board of Trade to the fact that confusion has arisen from the ruling that, where a contract is for work, labour, and materials rather than for a sale of goods, the goods required for carrying out the contract are not insurable under the Act. To remove the prevailing uncertainty, the Federation suggests that the Act should be amended to provide that, whether or not the contract includes an element of service, commodities should be insurable up to the time of delivery to the site (under a constructional contract) or to the customer in other cases, except when ownership has passed earlier to the purchasers.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A.) for A.R.I.B.A.; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A.; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor; T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING.

FEBRUARY 2.

Blyth T.C.—A.R.P. control centre, Broadway Circle. T. Wilson, B.E. Dep. £3.

Leicestershire C.C.—Demolition and rebuilding of office and store destroyed by fire at County C. depot, Croft. C.S., Grey Friars, Leicester.

Sutton Coldfield T.C.—Approximately 200 domestic surface type shelters. B.S. Dep. £1 1s.

FEBRUARY 3.

†Birmingham T.C. — Branch bank premises, High-st., Halesowen. General Manager, Municipal Bank, Broad-st., Birmingham. Dep. £3 3s.

Durham C.C.—2 cleansing stations, Jarrow. Wm. J. Merrett, C.E. and S., County Surveyor's Office, 43, Old Elvet, Durham.

FEBRUARY 5.

Cornwall C.C.—Alterations to St. Austell police station, S., Pool, County Architect, Truro. Dep. £2.

Dundee E.C.—Various works in connection with shelters in basements and playsheds, secondary and junior secondary schools. City Quantity Surveyor, 21, City-sq.

Halesowen T.C.—14 reinforced concrete-type air raid shelters and strengthening of one basement. B.E. and S.

Pontypool U.D.C.—Air raid shelters. E. and S. Dep. £3.

Whiston R.D.C.—55 single and 24 dual domestic surface shelters for 111 houses at or near Eccleston-la Ends; also erection of 15 single and 8 dual domestic surface shelters for 31 houses at or near The Roundabout, Cronton. Watson Garbutt, E. and S.

FEBRUARY 6.

Bedford T.C.—Three semi-surface air raid shelters at Goldington School, and steelwork and tubular steel struts at fire station, Mill-st. C. H. Blakeway, Newnham House, Horne-la. Dep. £1.

Bristol Port Authority.—Approximately 2,800 lin. yds. of dwarf concrete walling, with necessary excavation, etc., at Royal Edward Dock, Avonmouth. W. P. Wordsworth, Chief Engineer, Chief Engineer's Office, Avonmouth Docks. Dep. £3.

***Penge U.D.C.**—Decontamination centres and shelter. Colonel H. W. Longdin, S., Town Hall, S.E.20. Dep. £3 3s.

FEBRUARY 7.

Aldershot T.C.—Demolition of 61 to 65, Station-rd., and 109 to 113, High-st. B.S.

Basingstoke T.C.—Additions to fire station, Brook-st. B.S.

H.M.O.W.—Telephone exchange, Hurstmonceux, Sussex. Contracts Section, H.M.O.W., Marine Hydro, Rhyl. Dep. £1.

Maidstone T.C.—Trench shelters for 2,367 persons, and surface shelters for 508 persons. J. H. Hughes, B.S.

FEBRUARY 8.

Blandford Forum T.C.—8 houses, Langton-rd. L. Tait, B.S. Dep. £2 2s.

Rochdale C.B.—Police decontamination post, Cattle Market. B.S.

FEBRUARY 9.

Brighton C.B. — Sub-station building foundations, etc., at Freshfield-rd. W. N. C. Clinch, engineer and manager, Electricity Undertaking, Electric House, Castle-sq., Brighton. Dep. £1 1s.

FEBRUARY 10.

Antrim.—Filter-house at waterworks of County Antrim Mental Hospital, near Antrim, for Committee. F. D. Brown and Sons, engineering consultants, Bank of Ireland-chambs., Queen's Bridge, Belfast. Dep. £2.

Bilston E.C.—Six trench shelters and four surface shelters at Etheridge schools. A. F. B. Sidwick. B.E.

Feltham U.D.C. — Domestic surface shelters. E. and S. Dep. £2 2s.

Littleborough U.D.C.—Conversion of shed at Hare Hill into garage. G. F. Wild, E. and S.

Walsingham R.D.C.—34 houses, Field Dalling, Little Ryburgh, Morston, South Raynham and Wighton. J. Bamford, Housing Officer, Fakenham. Dep. £2 2s.

FEBRUARY 12.

Shipley U.D.C.—Strengthening, by means of steel girders and struts, of approximately 1,200 basements. H. Dawson, Surveyor and Architect, Town Hall.

FEBRUARY 14.

***Hornsey.**—Surface shelters.—J. H. Melville Richards, B.E. and S., Town Hall, N.8. Dep. £2.

Sutton and Cheam T.C.—Sinking, erection and concreting 150 and 500 Anderson steel shelters. N. H. Michell, B.E. and S. Dep. £2 2s.

FEBRUARY 15.

Caterham and Warlingham U.D.C.—Excavating for and erecting about 30 small surface shelters. S.

Chester C.C.—Completion of partially erected proposed senior mixed council school; fencing to boundaries of site, Frodsham senior council school. F. Anstead Browne (F.), County Architect, The Castle, Chester. Dep. £2 2s.

Coventry T.C.—Electricity sub-station, Banner-la, Tile Hill. D. E. E. Gibson (A.), City Architect, 1a, Warwick-row. Dep. £2 2s.

***Potters Bar U.D.C.**—Fire and ambulance station, Mutton-la. Marshall and Tweedy (FF.), 41b, Chagford-st., N.W.1. Dep. £1 1s.

FEBRUARY 16.

Haverfordwest R.D.C.—Two pairs of non-parlour-type houses at Folly, Camrose. W. V. Evans, C., 7, Dew-st.

***H.M.O.W.**—Telephone repeater station, Old Boston, Lancs. Contracts Section, H.M.O.W., Marine Hydro, Rhyl. Dep. £1.

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Prestwich T.C.—Alteration and adaptation of existing out-buildings as mortuary at Brooklands, Bury Old-rd. B.E. and S. Dep. £1 1s.

FEBRUARY 19.

Kildare Board of Health and Public Assistance.—Doctor's residence and dispensary at Kilcullen, Co. Kildare. Vincent Kelly (F.), 87, Merrion-sq., Dublin. Dep. £4 4s.

Kildare Board of Health and Public Assistance.—Doctor's residence and dispensary at Celbridge. Vincent Kelly (F.), 87, Merrion-sq., Dublin. Dep. £4 4s.

Macclesfield T.C.—Contracts Nos. 4 and 8 for pumping station and filtration buildings. Herbert Lapworth and Partners, engineers, 25, Victoria-st., Westminster, S.W.1, in collaboration with Max Tetlow (A.), Borough Architect. Dep. £2 each contract.

FEBRUARY 22.

Chatham T.C.—Demolition of premises at Watling-st. R. L. Honey, B.E. and S.

FEBRUARY 24.

Merionethshire C.C.—Constable's house at Glyndyfrdwy. N. L. Jones, County Architect, Dolgelley. Dep. £3 3s.

MARCH 6.

***Deptford.**—A.R.P. store building. B.E. and S., Town Hall, S.E.14.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

FEBRUARY 5.

Broadstairs U.D.C.—Protective covering to glazing at pavilion garden on sands. S. W. Richardson, E. and S., Pierremont Hall.

Dewsbury T.C.—Painting and decorating work required at public library, Wellington-rd. Borough Architect and Building Surveyor.

†Newcastle-on-Tyne T.C.—Painting to Red Barns old police station, Crawhall-rd. City Estate and Property Surveyor.

Tiverton R.D.C.—Exterior painting of various houses. A. J. Dennis, Building S., 21, St. Peter-st.

West Riding C.C.—New W.C.s at Ripon Girls' High School. Education Officer, County Hall, Wakefield.

FEBRUARY 6.

Bristol T.C.—1,000 light wrot-iron gates and alternately for timber and wire mesh gates in connection with public and communal shelters. J. Nelson Meredith (F.), City Architect, Eagle House, Colston-av. Dep. £1 1s.

Orrell U.D.C.—Internal decorating of 44 houses in Bell-la. and Hartley-gr. S.

FEBRUARY 7.

***†Middlesbrough Diocesan Trustees.**—Installation of electric light, South Bank senior R.C. school, Eston. T. Crawford (L.), 82, Borough-rd.

West Riding E.C.—Repairs to playgrounds at Owston-Skellow School; repairs, etc., to classroom floors at Adwick-le-Street Woodlands infants' school. A. J. Dempster, dvisional clerk, Winchester House, Scot-la., Doncaster.

Winslow R.D.C.—External and internal plumbing to 228 houses in 17 separate contracts. S.

FEBRUARY 8.

Dublin.—Repairs, etc.. to Administrative Building, Grangegorman, for Joint Committee. V. Kelly, architect, 87, Merrion-sq., Dublin. Dep. £5 5s.

Jarrow T.C.—Installation of electric light into infectious diseases hospital, Primrose. J. Scott Weir, B.E.

Stratford-on-Avon R.D.C.—Repairs, underpinning of walls and external painting to four houses at Camp Hill, Beaudesert, and two houses at Cherry Orchard, Henley-in-Arden. H. J. Weeks, S., 11, Guild-st.

FEBRUARY 10.

Benfleet U.D.C.—Internal decorations to seven houses, six in Fowles-av., Thundersley, and one in Rochford-ter., South Benfleet. S. Dep. £1 1s.

Orpington U.D.C.—Repairs and internal redecoration of council houses. L. O. Wall.

West Riding E.C.—Improvements to main water service, Bentley Kirkby-av. junior mixed school; improvement of offices at Adwick-le-Street Carcroft Park-la. junior girls' and infants' school; improvements to playground at the Barnby Don junior mixed and infants' school. A. J. Dempster, divisional clerk, Winchester House, Scot-la., Doncaster.

FEBRUARY 12.

Billinge and Winstanley U.D.C.—Painting and decoration of 22 houses, Holt-cres., and 24 houses, The Avenue, Tracks-la. S.

Portsmouth T.C.—Installation of fire alarm system at St. Mary's Hospital. City Architect, Northern Secondary School, Mayfield-rd. Dep. £1 1s.

FEBRUARY 16.

M.W.B. — Pipelaying, alterations and bricklayers' work within Western, Central and Eastern, Kent and Southern areas, for period of 12 months commencing April 1. Chief E., Rosebery-av., E.C.1.

West Riding E.C.—Repairs and improvements at Cowling school. E. B. Nelson, Education Office, Bingley.

FEBRUARY 26.

Battersea.—Low-pressure hot-water installation, at Kirtling-st., Battersea, for M.W.B. Chief E. Dep. £1 1s.

MATERIALS, &c.

The materials for which tenders are invited normally include one or several of the following :—asphalt, bricks, brooms, building lime, cast-iron pipes, cement, stoneware pipes, granite chippings, granite kerbs, gravel, gulleys, lime, manhole covers, painters' materials, plumbers' materials, road stone, slates, sand, stone, tar, tarslag and bituminous macadam, timber, and whinstone screenings. Readers should obtain full particulars by personal inquiry.

FEBRUARY 3.

East Barnet U.D.C.—C. M. Barnes, E. and S.

New Sarum T.C.—S. R. Little, City E.

Sedgley U.D.C.—A. E. Dicks, S.

FEBRUARY 5.

Birkenhead T.C.—Baths Superintendent and E.

Chingford T.C.—S. J. Hellier, B.E. and S.

Colne Valley U.D.C.—S., Marsden, near Huddersfield.

Cumberland C.C.—C.S., Carlisle.

Ventnor U.D.C.—G. Poole, S.

FEBRUARY 6.

Belfast and County Down Railway.—T. B. Andison, sec., Queen's Quay Terminus, Belfast.

Cardiff T.C.—City E.

Egyptian Ministry of Public Works.—Heavy cast-iron pipes, junctions and bands (spigot and socket) and air stop valves (Globe pattern). Main Drainage Dept., Cairo, Egypt. (Ref. T. 15042/40.)

Merionethshire C.C.—H. E. Davies, C.S., Dolgelley.

Rhyl U.D.C.—T. Lomax, Town S.

Swansea C.B.—B.E. and S.

Upington Municipality.—Pipes, valves and fittings, specials and jointing materials. Dept. of Overseas Trade. (Ref. T. 29957/39.)

FEBRUARY 7.

Burnley T.C.—B.E.

Clacton U.D.C.—W. Aiston, S.

Elland U.D.C.—F. R. Birkhead, E. and S.

H.M.O.W.—Bailiff, Royal Parks, Room 221, 2nd Floor, Caxton House (East Block), S.W.1.

Oundle U.D.C.—H. W. Bolton, E. and S.

Wenlock T.C.—B.S.

West Lancashire R.D.C.—R. Rosbotham, S., 52, Derby-st., Ormskirk.

FEBRUARY 9.

Fife C.C.—J. M. Mitchell, C., Cupar.

Sale T.C.—B.S.

Salford T.C.—City E.

Preston C.B.—B.E.

Todmorden T.C.—F. Tunnell, B.E.

ENGINEERING, IRON AND STEEL.

FEBRUARY 5.

Cwmbran U.D.C.—Repair and enlargement of Blaen-Bran Reservoir. W. Cory Goddard, E., Midland Bank-chams., Bridge-st., Newport (Mon). Dep. £3 3s.

Fleet U.D.C.—Two sewage filters. S.

South Africa.—Structural steelwork, etc., for a 600-ton coaling plant for Pietersburg, for South African Railways and Harbours Administration. Sec. to Tender Board, Room 420, South African Railways, Headquarters Offices, Johannesburg. (Local representation is essential.)

FEBRUARY 6.

Newport (Isle of Wight) T.C.—Piling and strengthening of quay wall bordering the River Medina at Town Quay. H. G. W. Cook, B.E. Dep. £2 2s.

FEBRUARY 12.

Macclesfield T.C.—Two mass concrete reservoirs. Herbert Lapworth and Partners, engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £3.

South African Railways and Harbours Administration.—Steel bars, etc. Sec., Tender Board, Room 420, Johannesburg. (Ref. T. 30206/39.)

FEBRUARY 21.

Milford Haven U.D.C.—Raising concrete dam at Prescelly reservoir. H. B. Ward, Consulting E., 68, The Albany, Old Hall-st., Liverpool, 3. Dep. £3 3s.

FEBRUARY 22.

South African Railways and Harbours Administration.—Pressed steel tank. Dept. of Overseas Trade. (Ref. T. 15058/40.)

FEBRUARY 29.

South African Railways and Harbours Administration.—Pressed steel tank. Chief Stores Superintendent, South African Railways and Harbours Offices, Rissik-st., Johannesburg. Dept. of Overseas Trade. (Ref. T. 15473/40.)

MARCH 4.

South Africa.—Steel bridgework, etc., for African Railways and Harbours Administration. Sec. to Tender Board, Room 420, Headquarters, Johannesburg. (Local representation is essential). Ref. T. 15066/40.

MARCH 5.

Egypt. — Supply and installation of artesian wells, etc., at Bouch Waterworks Station, for Municipalities Department of Ministry of Public Health. Dept. of Overseas Trade, St. George-st., S.W.1. (Ref. T. 15041/40.)

NO DATE.

Cheltenham R.D.C.—Contracts Nos. 1 and 2 for area water scheme. J. H. Haiste, Consulting E., Middleton-chambs., Lowgate, Hull.

ROAD, SEWERAGE AND WATER WORKS.

FEBRUARY 3.

Portishead U.D.C.—Repairs to 15-in. sea outfall sewer. H. R. H. White, S.

West Riding E.C.—Reasphalting playground at Stanley Lofthouse Gate school. P. Beaumont, divisional clerk, 8, St. John's North, Wakefield.

FEBRUARY 5.

Antrim C.C.—Surface spraying and resurfacing with bituminous macadam and tar-grouted macadam. C.S., Courthouse, Belfast.

Ely R.D.C.—Construction, completion and maintenance of 430 yds. of 6-in. and 180 yds. of 4-in. dia. spun-iron socket and spigot pipes, manholes, ejector station and ancillary works, near Beck Row. Silcock and Simpson, consulting engineers, 10, Park-row, Leeds. Dep. £2.

Feltham U.D.C.—Foul water sewer in Station Estate-rd. E. and S. Dep. £1 1s.

Hayes and Harlington U.D.C.—Laying of approximately 700 yds. of concrete tube surface water sewers in Hayes End-rd. and Town Planning-rd. No. 10, Hayes. E. and S. Dep. £3 3s.

Pembroke T.C.—Laying of house drains to connect to new sewers laid by Corporation at Pembroke and Pembroke Dock, and conversion of existing privies and pail closets to modern water closets, including construction of approximately 623 new water closets. Sanitary Inspector, Bush-st., Pembroke Dock. Dep. £3 3s.

FEBRUARY 6.

Irvinestown R.D.C.—Road maintenance and other works. S. T. Aiken, C.

FEBRUARY 7.

Denton U.D.C.—Street works on Dane Bank estate. E. and S. Dep. £2 2s.

FEBRUARY 9.

Neath T.C. — Improvement works in Poplars-av. H. Alex Clarke, B.E., Gwyn Hall.

FEBRUARY 10.

Amersham P.C.—Laying out "King George's Field" and providing equipment for children's playground at Woodside-rd. G. Pratt, C., Bank-bldgs., Whielden Corner. Dep. £1 1s.

Higham and Hundred of Hoo Water Co.—Trench work, etc., to connection with laying of about 6¼ miles of mains in parishes of Stoke and Isle of Grain, Kent. E. Webb, Sec., Bridge-chambs., Rochester.

FEBRUARY 12.

Chichester T.C.—New water supply scheme, pumping main, etc., contract No. 3. Sandford, Fawcett and Partners, consulting engineers, 53, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

Ilford T.C.—Making-up and surfacing of passageway from Cantley-gdns to Springfield-dr., and culvert over Cran Brook. B.E. and S. Dep. £2 2s.

FEBRUARY 15.

Castlederg R.D.C.—Road maintenance and other works. District Clerk.

Public Appointments.

FEBRUARY 6.

***Derby C.B.**—Technical Assistant and Woman Home Adviser for Estates and Housing Dept. J. Pritchard Lovell, Borough Estates Manager.

FEBRUARY 9.

***Middlesbrough E.C.**—Temporary Architectural Draughtsman. Stanley Moffett, Director of Education, Education Offices.

FEBRUARY 19.

***Croydon C.B.**—Indoor Assistant Maintenance Section, Valuer's Dept. E. Taberner, T.C., Town Hall.

NEW BUILDINGS IN LONDON

ACTON. — PREMISES. — Messrs. Ferris Brothers, 104 and 106, Churchfield-road, Acton, W.3, are carrying out alterations and additions and two air raid shelters at new premises in Park Royal-road, N.W.10. Plans by Messrs. Percy Pratt and Blount, F.R.I.B.A., 174, High-street, Acton, W.3.

BARKING.—BUILDING.—The T.C. has approved plans for two-storey buildings in River-road, for Messrs. A. Ibbetson and Co., Ltd.; and steel-framed buildings in Abbey-road, for the Chemical Supply Co., Ltd.

DAGENHAM.—BUILDING.—The T.C. has approved plans for Messrs. Briggs Motor Bodies, Ltd., boiler-house, aluminium stores, maintenance buildings, basement shelter and foundations for future office block in Chequers-lane; and Messrs. Windsor Hosiery Co., extensions to factory in Wantz-road.

EDGWARE. — BUILDING. — The Hendon T.C. has sanctioned plans for extensions to ground-floor, factory, The Forum, Edgware, for Messrs. Chas. Wright, Ltd., and for additions at 147, Station-road, Edgware, for Messrs. Dorothy Perkins, Ltd., by Messrs. Sycamore (Brentford), Ltd., 2, Commerce-road, Brentford.

HAYES.—CLINIC.—The Middlesex E.C. recommend, subject to official approval, that the County Architect be authorised to arrange for the completion of the buildings designed to accommodate a school clinic and maternity and child welfare centre on the Minet estate, Hayes.

HENDON.—SCHOOL.—The E.C. has been informed by the B. of E. that they are prepared to approve the completion of the erection of the permanent premises for Broadfields-avenue junior and infant school.

PERIVALE. — RESERVOIR. — Conditional consent has been given the construction of a subterranean reservoir at Horsenden Hill by the Rickmansworth and Uxbridge Valley Water Co.

SOUTHALL.—SHOP.—The T.C. has approved plans for a machine shop on the west side of The Green, for Messrs. Le Grand, Sutcliff and Gell, Ltd.

SOUTHGATE. — GARAGE. — The T.C. resolved that application be made to M.H. for sanction to the borrowing of £2,000, providing additional garage accommodation at the Barrowell Green refuse destructor.

TWICKENHAM. — PREMISES. — Plans passed by T.C. for the Eagle Oil and Shipping Co., Ltd., for alterations and additions, 21, Waldegrave-park.

WEST HAM.—BUILDING.—The T.C. has approved plans for alterations and additions at 99 and 101, Plaistow-road, for Messrs. A. Webb, Ltd., Langthorne Works, Romford-road, E.15; and alterations and additions at 328 and 330, Romford-road, for Messrs. G. B. Farrar and Co., 193, Whitechapel-road, E.1.

WOOLWICH. — ADDITIONS. — Messrs. Watney, Combe, Reid & Co., Ltd., Stag Brewery, Pimlico, S.W.1, have had plans approved by the B.C. for alterations and additions to the "Old Sheer Hulk" public-house, 194, Woolwich Church-street.

CURRENT AND PROPOSED BUILDING WORK*

Ashington.—U.D.C. approved plans for steel-framed auxiliary fire station to cost about £800. B. Preston, S.

Barrow-in-Furness.—Governors of North Lonsdale Hospital propose out-patients department, etc., at £20,000.

Beeston.—Plans passed: Hotel on Lilac-gr. and Rose-gr., for J. Shipstone and Son, Ltd., The Brewery, New Basford, Nottingham. W. B. Starr and Hall, architects, 12, Victoria-st., Nottingham.

Bermondsey.—B.C. approved drainage plan: Thos. G. Wright and Sons, 8, Busheyroad, Shirley, Croydon, for Mrs. M. E. Edwards, 2, Grove-close, Hayes, Kent, alteration to premises, 271/273, Southwark Park-road.

Brighton.—C.B. approved: Alterations and additions, Norfolk Hotel, 2 and 4, Bedford-sq., Ritz Norfolk Hotel, Ltd.; store, factory site, Moulsecombe-way, East Moulsecombe Estate, Falmer, Allen, West and Co., Ltd.; block of five houses, Porthall-av., F. A. Fuller.

Bromsgrove.—Ansell's Brewery Co., Ltd., Park-rd., Aston, Birmingham, 6, proposes public-house, junction of Groveley-la. and Longbridge-la.

Chester.—Electrical Engineer to be instructed to provide supply of electricity to military hospital at Backford, at £2,400.—M.H. raised no objection to completion by Council of 22 houses, Lache estate.—Plans passed: Canteen and emergency hut at St. John-st., for Y.M.C.A.

Chesterfield.—R.D.C. received sanction for 22 houses at Stonebroom. J. B. Wikeley, E. and S.

Coalville.—Board of Ellistown Colliery proposing pithead baths at colliery. Plans in Architect's Dept., Miners' Welfare Central Fund Committee, Romney House, Tufton-st., London, S.W.1.

Coventry.—Waterworks and Fire Brigade Committee recommend application for sanction to borrowing of £27,000 in respect of scheme for emergency supply of water from the Avon.

Ellesmere.—R.D.C. received sanction to proceed with 16 additional houses at Welshampton, Hordley and Tetchill sites.

Feltham.—U.D.C. to seek sanction from M.H. to loan for dwellings on Poors' Land, for elderly persons.

Gateshead.—Arthur and Kirkup, 13, Swinburne-st., prepared plans for alterations to premises in West-st., for Barclay's Bank Ltd.

Gateshead.—Archibald Arrol and Sons, Ltd., West Blandford-st., Newcastle-on-Tyne, to apply for consent to build hotel, Split Crow-rd.—Newcastle Breweries, Ltd., Haymarket, Newcastle-on-Tyne, propose licensed premises, Chow Dene Farm.

Halesowen.—R.C. approved: Works extension, Whitehall-rd., Halesowen. A. J. Emery and Son.

Hebburn-on-Tyne.—Cackett, Burns Dick and MacKellar, 21, Ellison-pl., Newcastle-on-Tyne, prepared plans for machine-room at Hebburn for Bushing Co., Ltd.

Hebburn-on-Tyne.—McEwan and Co., Ltd., Fountain Brewery, Edinburgh, to apply for licence for new "Hedgeley Arms," Hedgeley-rd. Architects, Page, Son and Bradbury, 75, King-st., South Shields.

Heston and Isleworth.—T.C. approved buildings and store at £500.—Application to be made to Electricity Commissioners for sanction to borrow £4,847 for Westbrook-rd. sub-station.

Hinckley.—Board of Management of Hinckley and District Hospital and Nursing Institute propose male ward, at £8,000. Architects, Pick, Everard, Keay and Gimson, 6, Millstone-la., Leicester.

Jarrow.—T.C. to light infectious diseases hospital with electricity.

Kidderminster.—Smethwick Stamping Co., Ltd., Bridge-st., Smethwick, proposes development of land on Stourport-rd. for new works.

Kingston.—T.C. conditionally approved plans for lay-out for 20 maisonettes, Park-rd.

Macclesfield.—Bullock, Thornhill and Son, Ltd., Chester-rd., Macclesfield, acquired Crompton-rd. Mill for extensions.

Manchester.—T.C. approved: Footbridge, Pollard-st. to Carruthers-st., connecting works for Hugh Stevenson and Sons, Ltd., Pollard-st., Ancoats; cupola, Bilburn-st., off Dantzic-st., Whitefield Foundry, Ltd., Lord-st., Whitefield; factory, Cheetham Hill-rd. and Skip-pl., T. A. Fitton and Son, architects, 7, Chapel-walks; chemical factory, Boardman-st., Ashton New-rd., and chimney to works, Clayton-la. and Chatham-st., for Clayton Aniline Co., Ltd., Clayton.

Meir.—Handley Page, Ltd., Cricklewood, N.W.2, propose factory.

Mexborough.—U.D.C. received sanction to proceed with proposed extensions to fire station for A.F.S., at £790.

Middlesex.—C.C. recommend further £3,500 to Governors for completing buildings now in course of erection to the extent of making structure weatherproof and fit for educational use, at North London Collegiate school, Canon's Park, Edgware; £760 in connection with construction of temporary in-patient accommodation at Hillingdon County Hospital; revised estimated cost of £31,600 in connection with reconstruction of Finchley-rd., Hendon, from Cricklewood-la. to Portsdown-av.; and application to M.H. for sanction to borrowing of £22,040 for completion of acquisition of certain properties for highway purposes.

New Forest (Hants).—R.D.C. accepted tender of £2,005 for adapting Langley House, Colbury, into isolation hospital.

4-443A

Newcastle.—Timber and joinery works of Nausenbaum, Newcastle, destroyed by fire, to be rebuilt. Architect, J. W. Taylor, Union-bldgs., St. John-st.

Northampton.—T.C. approved: additional storey to warehouse, 34, Wycliffe-rd. H. Wright, Ltd.

Northwick.—John Kerr and Co., Ltd., London-rd., proposing works in Water-st. for cellulose spraying department.

Oxford.—City Council adopted report of E.C. for school programme for 1940-41, at £138,900.

Paignton.—Plans approved by U.D.C.: Public-house, Foxhole-rd., Swayne and Co., Ltd.

Peterborough.—T.C. approved extensions to factory in Burton-st. for British Braid and Bootlaces, Ltd.

Redditch.—U.D.C. received sanction of M.H. for 50 houses in Studley-rd.

Rochdale.—Phœnix Brewery Co., Ltd., Chester-rd., Cornbrook, propose structural alterations to Old Chapel House, Whitworth-rd. Plans by S. Metcalf, resident architect.—Crown Brewery Co., Rochdale-rd., Bury, propose structural alterations to "Ship Inn" p.-h., Milnrow-rd. Architects, Brocklehurst and Hill, 6, The Rock, Bury.

Rochdale.—T.C. received sanction to proceed with construction of Moss Bridge and complete Moss Bridge-rd. S. H. Morgan, B.E. and S.

Rochester.—T.C. approved: Alterations, "The Sportsman" p.-h., Brompton-la., F. Leney and Sons, Ltd.

Romford.—B.S. reported that L. and N.E. Rly. were proposing to proceed with widening of Jutsums-la. bridge and provision of station at Crowlands. Estimated cost, £6,600.—Consents of M.H. to borrowing received: £810, North-st. convenience; £635, cemetery superintendent's house; £1,420, Lodge Farm estate sewerage; and £3,990, Collier-row clinic.—Plans passed: Extensions to office and store off North-st.

Rothbury.—C. F. Murphy, Lloyds Bank-chas., Morpeth, preparing plans for rebuilding of Jubilee Hall.

Rowley Regis.—Wolverhampton and Dudley Breweries, Ltd., Park Brewery, Wolverhampton, proposes public-house at Surfeit Hill.

Rugby.—T.C. approved plans—new hall, Church of St. George, St. John's-av., for Trustees.

Salford.—Catholic Authorities of Church of St. Sebastian, Gerald-rd., Pendleton, proposing corridor between church and priory, and also for reconstruction of St. Charles' Hall, White-la., Pendleton. H. Greenhalgh, architect, 15, Mawdsley-st., Bolton.

Sheffield.—T.C. propose reconstruction of Tinsley Bridges.—E.C. propose proceeding with council school, Lindsay-rd. (Southey No. 5), at £33,050.

Sheffield.—John Shentall, Ltd., Whittington Moor, Chesterfield, proposes warehouse, Buchan-rd., and Lytton-rd. Architect, W. A. Derbyshire, 26, Gluman Gate, Chesterfield.

Slough.—T.C. to spend £250 on alterations to fire station in Hamilton-rd.—Plans passed:—R. Malcolm, Ltd., watch post building, rear of factory, Bath-rd.

Smethwick.—Birmingham Aluminium Casting Co. (1903), Ltd., Dartmouth-rd., propose rebuilding of laboratory, Dartmouth-rd.—T.C. propose enlargement of police and fire stations.

Smethwick.—T.C. approved offices, Alma-st., for Twisteel Reinforcement Co., Ltd., Tollington House, Lawrence-la., Old Hill.

Stafford.—T.C. received sanction to borrow £6,165 for infant welfare centre. W. Plant, B.S.—Joint Tuberculosis Hospital Board proposes to proceed with extensions to Groundslow Sanatorium.

Stockport.—Peter Walker and Son (Warrington and Burton), Ltd., Empress Brewery, 382, Chester-rd., Old Trafford, Manchester, propose erection of "Fir Trees" hotel, junction of Gorton-rd. and Longford-rd., West Reddish.

Twickenham.—Repairs and painting works to be carried out at London-rd. depot for T.C. at £390.

Walthamstow.—T.C. recommend Corkoide floor covering for basement of new municipal offices, at £407.

* See also List of Contracts Open.

*** **In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1940

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/8½	1/3½
Aberdare	1/8½	1/3½
Abergavenny	1/8½	1/3½
Abingdon	1/7	1/2½
Accrington	1/8½	1/3½
Aldeburgh	1/5	1/1
Aldershot	1/7	1/2½
Alfreton	1/8½	1/3½
Alnwick	1/8	1/3½
Altrincham	1/8½	1/3½
Amble	1/8	1/3½
Amersham	1/7	1/2½
Ammanford	1/8½	1/3½
Andover	1/6½	1/2½
Ardingley	1/6½	1/2½
Arundel	1/6½	1/2½
Ascot	1/6½	1/2½
Ashby-de-la-Zouch	1/8½	1/3½
Ashford (Kent)	1/6½	1/2½
Ashford (Middlesex)	1/8½	1/3½
Ashington	1/8	1/3½
Ashtead	1/8½	1/3½
Ashton-under-Lyne	1/8½	1/3½
Aylesbury	1/6½	1/2½
Aylsham	1/5½	1/1½
Bagshot	1/6½	1/2½
Banbury	1/6½	1/2½
Barnsley	1/8½	1/3½
Barnstaple	1/6½	1/2½
Barrow-in-Furness	1/8½	1/3½
Barry	1/8½	1/3½
Basingstoke	1/6½	1/2½
Bath	1/8	1/3½
Batley	1/8½	1/3½
Beaconsfield	1/7	1/2½
Beccles	1/5	1/1
Bedford	1/8	1/3½
Berkhamsted	1/6½	1/2½
Berwick	1/8	1/3½
Beverley	1/8½	1/3½
Bexhill-on-Sea	1/7	1/2½
Bideford	1/6½	1/2½
Biggleswade	1/6½	1/2½
Billericay	1/6	1/1½
Birchington	1/6½	1/2½
Birkenhead	‡§1/10½	¶
Birmingham	1/8½	1/3½
Bishop Auckland	1/8½	1/3½
Bishops Stortford	1/7½	1/3
Blackburn	1/8½	1/3½
Blackpool	1/8½	1/3½
Blyth	1/8½	1/3½
Bognor Regis	1/6½	1/2½
Bolton	1/8½	1/3½
Bournemouth	1/7½	1/3
Bracknell	1/6½	1/2½
Bradford	1/8½	1/3½
Bradford-on-Avon	1/5½	1/1½
Braintree	1/6½	1/2½
Brentwood	1/8	1/3½
Bridgwater	1/7	1/2½
Bridlington	1/8	1/3½
Brighouse	1/8½	1/3½
Brighton	1/7½	1/3
Bristol	1/8½	1/3½
Broadstairs	1/6½	1/2½
Bromsgrove	1/8	1/3½
Buckley	1/8½	1/3½
Bungay	1/4½	1/0½
Burnham-on-Crouch	1/5	1/1
Burnley	1/8½	1/3½
Burslem	1/8½	1/3½
Burton-on-Trent	1/8½	1/3½
Bury	1/8½	1/3½
Bury St. Edmunds	1/6	1/1½
Buxton	1/8	1/3½
Byfleet	1/7	1/2½
Cambridge	1/8½	1/3½
Canterbury	1/6½	1/2½
Cardiff	1/8½	1/3½
Carlisle	1/8½	1/3½
Carnforth	1/8½	1/3½
Castleford	1/8½	1/3½
Caterham	1/8½	1/3½
Chard	1/5½	1/1½
Chatham	1/7½	1/3
Chelmsford	1/8	1/3½
Cheltenham	1/7½	1/3
Chepstow	1/8	1/3½
Chertsey	1/7½	1/3
Chester	1/8½	1/3½
Chesterfield	1/8½	1/3½
Chichester	1/6½	1/2½
Chorley	1/8½	1/3½
Cirencester	1/6	1/1½
Clacton	1/6½	1/2½
Cleveleys	1/8½	1/3½
Clitheroe	1/8½	1/3½
Cobham (Surrey)	1/7½	1/3
Colchester	1/8	1/3½
Colwyn Bay	1/7½	1/3
Congleton	1/8	1/3½
Coventry	1/8½	1/3½
Cranbrook	1/6½	1/2½
Cranleigh	1/6½	1/2½
Crawley	1/6½	1/2½
Crewe	1/8	1/3½
Cromer	1/5½	1/1½
Crowborough	1/6½	1/2½
Cuckfield	1/6½	1/2½
Darlington	1/8½	1/3½
Darwen	1/8½	1/3½
Daventry	1/7	1/2½
Deal	1/6½	1/2½
Denbigh	1/7½	1/3
Derby	1/8½	1/3½
Devizes	1/5½	1/1½
Dewsbury	1/8½	1/3½
Didcot	1/6½	1/2½
Diss	1/5	1/1
Doncaster	1/8½	1/3½
Dorchester	1/6	1/1½
Dorking	1/7	1/2½
Dover	1/6½	1/2½
Dovercourt	1/6½	1/2½
Driffield	1/7	1/2½
Droitwich	1/8	1/3½
Dudley	1/8½	1/3½
Dunstable	1/7	1/2½
Durham City	1/8½	1/3½
Eastbourne	1/7½	1/3
E. Glam. (Mon. Val.)	1/8½	1/3½
East Grinstead	1/6½	1/2½
Edenbridge	1/6½	1/2½
Ely	1/5½	1/1½
Epping	1/8½	1/3½
Exeter	1/8	1/3½
Exmouth	1/7	1/2½
Fakenham	1/5½	1/1½
Falmouth	1/7	1/2½
Fareham	1/7½	1/3
Faversham	1/6½	1/2½
Felixstowe	1/7½	1/3
Filey	1/7	1/2½
Fleetwood	1/8½	1/3½
Flint	1/8½	1/3½
Folkestone	1/6½	1/2½
Frinton-on-Sea	1/6½	1/2½
Frome	1/5½	1/1½
Gainsborough	1/7½	1/3
Gateshead	1/8½	1/3½
Gillingham (Kent)	1/7½	1/3
Glossop	1/8½	1/3½
Gloucester	1/8	1/3½
Godalming	1/6½	1/2½
Goole	1/8½	1/3½
Gosport	1/8	1/3½
Grantham	1/7½	1/3
Gravesend	1/8	1/3½
Great Yarmouth	1/6½	1/2½
Grimsby	1/8½	1/3½
Guildford	1/6½	1/2½
Guilsborough	1/7	1/2½
Halifax	1/8½	1/3½
Hanley	1/8½	1/3½
Harpenden	1/7½	1/3
Harrogate	1/8½	1/3½
Hartlepools	1/8½	1/3½
Harwich	1/6½	1/2½
Haslemere	1/6½	1/2½
Hastings	1/6½	1/2½
Hatfield	1/8	1/3½
Haywards Heath	1/6½	1/2½
Hednesford	1/8	1/3½
Hemel Hempstead	1/7½	1/3
Henley-on-Thames	1/6½	1/2½
Hereford	1/6½	1/2½
Herne Bay	1/6½	1/2½
Hertford	1/8	1/3½
Heysham	1/8½	1/3½
Hitchin	1/7½	1/3
Hoddesdon	1/8	1/3½
Holt (Norfolk)	1/5	1/1
Horley	1/6½	1/2½
Horsham	1/6½	1/2½
Horwich	1/8½	1/3½
Huddersfield	1/8½	1/3½
Hull	1/8½	1/3½
Hunstanton	1/5½	1/1½
Huntingdon	1/6	1/1½
Ilfracombe	1/6½	1/2½
Ingatestone	1/7	1/2½
Ipswich	1/8	1/3½
Isle of Thanet	1/6½	1/2½
Isle of Wight	1/6	1/1½
Keighley	1/8½	1/3½
Kenilworth	1/8½	1/3½
Kettering	1/8½	1/3½
Kidderminster	1/8	1/3½
King's Lynn	1/6½	1/2½
Kirkham	1/8½	1/3½
Knowle	1/8	1/3½
Lancaster	1/8½	1/3½
Leamington	1/8½	1/3½
Leatherhead	1/7½	1/3
Leeds	1/8½	1/3½
Leicester	1/8½	1/3½
Leighton Buzzard	1/5½	1/1½
Letchworth	1/7½	1/3
Lewes	1/6½	1/2½
Lichfield	1/7½	1/3
Lincoln	1/8½	1/3½
Littlehampton	1/6½	1/2½
Liverpool	‡§1/10½	¶
Llandudno	1/7½	1/3
Llanelly	1/8½	1/3½
London—		
12m. radius	1/10*	1/4½
12-15 m. radius	1/9½*	1/4½
Long Eaton	1/8½	1/3½
Longton	1/8½	1/3½
Loughborough	1/8½	1/3½
Louth	1/7	1/2½
Lowestoft	1/6½	1/2½
Luton	1/8	1/3½
Macclesfield	1/8	1/3½
Maidenhead	1/7½	1/3
Maidstone	1/7	1/2½
Malvern	1/7	1/2½
Manchester	1/8½	1/3½
Manningtree	1/5½	1/1½
Mansfield	1/8½	1/3½
March	1/5½	1/1½
Margate	1/6½	1/2½
Market Harborough	1/7½	1/3
Matlock	1/7	1/2½
Melton Constable	1/5	1/1
Melton Mowbray	1/7½	1/3
Merthyr	1/8½	1/3½
Middlesbrough	1/8½	1/3½
Middleton	1/8½	1/3½
Middlewich	1/8	1/3½
Milford Haven	1/7	1/2½
Morecambe	1/8½	1/3½
Morley	1/8½	1/3½
Mundesley	1/5½	1/1½
Nantwich	1/8	1/3½
Nelson	1/8½	1/3½
Newark-on-Trent	1/8	1/3½
Newbury	1/6½	1/2½
Newcastle-on-Tyne	1/8½	1/3½
Newcastle-u.-Lyme	1/8½	1/3½
New Forest	1/6½	1/2½
Newmarket	1/6½	1/2½
Newport, Mon.	1/8½	1/3½
Newport Pagnell	1/6½	1/2½
Northampton	1/8½	1/3½
Norwich	1/8½	1/3½
Nottingham	1/8½	1/3½
Nuneaton	1/8½	1/3½
Oakham	1/7	1/2½
Oldham	1/8½	1/3½
Ormskirk	1/8½	1/3½
Oxford	1/8	1/3½
Oxted	1/7	1/2½
Paignton	1/8	1/3½
Peterborough	1/8	1/3½
Plymouth	1/8½	1/3½
Pontefract	1/8½	1/3½
Pontypridd	1/8½	1/3½
Port Talbot	1/8½	1/3½
Portsmouth	1/8	1/3½
Preston	1/8½	1/3½
Pulborough	1/6½	1/2½
Ramsgate	1/6½	1/2½
Reading	1/8	1/3½
Redditch	1/8	1/3½
Redhill	1/7	1/2½
Ripon	1/7	1/2½
Rochdale	1/8½	1/3½
Rochester	1/7½	1/3
Rugby	1/8½	1/3½
Saffron Walden	1/5½	1/1½
St. Albans	1/8	1/3½
St. Helens	1/8½	1/3½
St. Neots	1/6	1/1½
Salisbury City	1/6	1/1½
Salisbury Plain	1/7½	1/3
Sawbridgeworth	1/7	1/2½
Saxmundham	1/5	1/1
Scarborough	1/8	1/3½
Scunthorpe	1/8½	1/3½
Selby	1/8½	1/3½
Sevenoaks	1/7	1/2½
Sheerness	1/6½	1/2½
Sheffield	1/8½	1/3½
Shipley	1/8½	1/3½
Shoeburyness	1/8	1/3½
Shoreham	1/7½	1/3
Shrewsbury	1/8	1/3½
Sittingbourne	1/6½	1/2½
Skegness	1/7½	1/3
Sleaford	1/7	1/2½
Slough	1/7½	1/3
Southampton	1/8	1/3½
Southend-on-Sea	1/8	1/3½
Southport	1/8½	1/3½
South Shields	1/8½	1/3½
Spalding	1/6½	1/2½
Stafford	1/8	1/3½
Staines	1/7½	1/3
Stamford	1/7½	1/3
Stevenage	1/7½	1/3
Stockport	¶1/8½	1/3½
Stockton-on-Tees	1/8½	1/3½
Stoke-on-Trent	1/8½	1/3½
Stourbridge	1/8½	1/3½
Stourport	1/8	1/3½
Stowmarket	1/5½	1/1½
Stratford-on-Avon	1/7½	1/3
Stroud	1/7½	1/3
Sunderland	1/8½	1/3½
Sutton Coldfield	1/8½	1/3½
Swaffham	1/5	1/1
Swanage	1/6½	1/2½
Swansea	1/8½	1/3½
Swindon	1/7	1/2½
Tamworth	1/8	1/3½
Taunton	1/7	1/2½
Tenterden	1/6½	1/2½
Thames Haven	1/8½	1/3½
Thetford	1/6	1/1½
Thorpe Bay	1/8	1/3½
Todmorden	1/8½	1/3½
Tonbridge	1/7	1/2½
Torquay	1/8	1/3½
Totnes	1/6½	1/2½
Trowbridge	1/5½	1/1½
Truro	1/6	1/1½
Tunbridge Wells	1/7	1/2½
Uppingham	1/7	1/2½
Uttoxeter	1/7	1/2½
Wakefield	1/8½	1/3½
Walsall	1/8½	1/3½
Walsden	1/8½	1/3½
Walton-on-Naze	1/6½	1/2½
Ware	1/8	1/3½
Warminster	1/5½	1/1½
Warrington	1/8½	1/3½
Warwick	1/8½	1/3½
Wellingborough	1/8	1/3½
Welwyn	1/7½	1/3
Welwyn Gar. City	1/8½	1/3½
Wells (Norfolk)	1/5	1/1
West Bromwich	1/8½	1/3½
Westcliff-on-Sea	1/8	1/3½
Weston-super-Mare	1/7½	1/3
Weybridge	1/7½	1/3
Weymouth	1/6½	1/2½
Whitby	1/7½	1/3
Whitstable	1/6½	1/2½
Widnes	1/8½	1/3½
Wigan	1/8½	1/3½
Wigton	1/7	1/2½
Willington	1/8	1/3½
Wilmslow	1/8½	1/3½
Winchester	1/7	1/2½
Windermere	1/7	1/2½
Windsor	1/7½	1/3
Wisbech	1/6	1/1½
Witham	1/6½	1/2½
Woking	1/7	1/2½
Wokingham	1/6½	1/2½
Wolverhampton	1/8½	1/3½
Woodbridge	1/6	1/1½
Worcester	1/8	1/3½
Workington	1/7	1/2½
Worksop	1/8	1/3½
Worthing	1/6½	1/2½
Wrexham	1/8	1/3½
Wroxham	1/6	1/1½
Wycombe	1/7½	1/3
Wymondham	1/5½	1/1½
Yeovil	1/7	1/2½
York	1/8½	1/3½

* Painters 1d. less than other Craftsmen. • ‡Plasterers 1/11.

¶ Tradesman's Labourers 1/4½. Navvies and General Labourers 1/4½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland, see page 173.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry. The softwood prices are the maxima established by the Timber Control Department. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities. Lead can only be obtained for Government or A.R.P. work and urgent repairs.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.

Best Stocks 4 15 0
Second Hard Stocks 4 8 0

Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres.	King's Cross Station. per 1,000. s. d.	To sites in W.C. District. per 1,000. s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 ft. accompanied by order for Pressed.

	£ s. d.
White Midhurst Facing Bricks (delivered London site)	3 12 6
Best blue Pressed Staffs	8 6 6
Do. Bullnose	8 16 6
Blue Wire Cuts	7 4 0
Best Stourbridge Fire Brick :—	
2½ in. ..... 7 15 0 3 in.	8 15 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
		One side & two ends	33 10 0
Headers	23 10 0	Two sides & one end	34 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.			
2" per yd. sup. ..	2 3	3" per yd. sup. ..	2 9
2½" " "	2 6	4" " "	3 1
CLINKER CONCRETE.			
2" per yd. sup. ..	1 6	3" per yd. sup. ..	2 0
2½" " "	1 8	4" " "	2 4
CRANHAM TERRA COTTA.			
2" per yd. sup. ..	3 0	3" per yd. sup. ..	3 8
2½" " "	3 6	4" " "	4 7
HEMPSTEAD—KEYED TWO SIDES.			
12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

SAND.

Per yard super d/d.	Free on site, London.
Thames Ballast 7 9	per yd.
Pit Ballast 7 3	delivered
Pit Sand 9 9	2 miles
Washed Sand 10 9	radius
⅜in. Shingle 8 0	Paddington.
¾in. Broken Brick 12 0	
Pan Breeze 8 3	

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site ..... Per ton	2 5 0
1 ton to 4 tons site	2 8 0
Alongside Vauxhall in 80-ton lots	2 2 6
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 11 0
1 ton to 4 tons site	2 14 0
Alongside Vauxhall in 80-ton lots	2 8 6

Stores in Reserved Bins at Works 1/6 ton extra.

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site 3 15 0

"Colorcrete," not rapid-hardening, in 1-cwt. paper bags free (non-returnable), according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable)

1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 15 0
Roman Cement £6 15 Keene's Cement, White	5 10 0
Parian Cement £5 10 " " Pink	5 2 6

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 0 0	Sirapite, Coarse ..	3 10 0
" White ..	3 10 0	" Finish ..	3 18 0
Pioneer	3 10 6		
Super Carbo	2 7 6	4-ton loads and over London Area, paper bags free.	
Carbo Setting....	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
Granite Chippings	1 5 0	Hair per cwt. ..	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at

	s. d.
Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station. per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½

Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

	s. d.
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 5
Do. do. delivered on road waggons as above stations, per ft. cube	4 6
White basebed, 3d. per ft. cube extra.	

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	14 0
Sawn two sides	22 6

HOPTON-WOOD STONE—

Sawn three or four sides	27 9

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super	5 0
6 in. rubbed two sides, ditto .. "	5 6
3 in. sawn two sides slabs (random sizes) ..... "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... "	1 6½
1½ in. to 2 in., ditto. ..... "	1 3½

HARD YORK—

Delivered at any Goods Station, London.

Scrappled random blocks. ..... per ft. cube	6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft. super	5 1½
6 in. rubbed two sides, ditto .... "	6 1½
4 in. sawn two sides slabs (random sizes) ..... "	3 1½
3 in. ditto ditto ..... "	2 5
2 in. self-faced random flags ..... Per yd. super	7 6

CAST STONE.

Delivered in London are in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube.	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube. ..... 10 0 to	0 12 6
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube.	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube. ..... 12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube.	0 18 0
Dry Teak, per ft. cube.	0 14 0
Dry American Whitewood, per ft. cube.	0 10 6
Dry Australian Walnut, per ft. cube	0 17 0
Dry Queensland Silky Oak, per ft. cube. ...	0 11 0
Dry African Mahogany, per ft. cube	0 10 0
Dry African Whitewood, per ft. cube.	0 8 0
Dry English Wainscot Oak, per ft. cube.	0 16 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. ..... 4 7 0 to	5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11.	£38 10	3 × 6.	£31 10
4 × 9.	38 10	3 × 11.	38 10
4 × 8.	35 10	2 × 11.	38 10
4 × 7.	35 10	3 × 9.	37 10
3 × 8.	32 10	2½ × 9.	37 10
3 × 7.	31 10	3 × 4½	30 0
2½ × 7.	31 10	3 × 4.	30 0

Having secured the Contract— What about the Steel Scaffolding?

TUBULAR

SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in The Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).

PLANED BOARDS.

1 × 11. ..... £43 10	1 × 9. ..... £39 10

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
⅜	22/6	1¼	38/-
½	25/-	1½	42/6
1	28/6		

TONGUED AND GROOVED FLOORING.

Inches.	Per sq.	MATCHING (BEST) Inches.	Per sq.
1	29/-	⅜	23/-
1¼	38/6	½	25/-
1½	43/-	1	29/-

Ins. BATTENS.	s. d.	SAWN LATHS.	s. d.
¾ × 2 per 100 ft.	2 9	Per bundle	2 6

SLATES.

First quality slates from Penrhyn or Portmadoc. carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12 ..	31 5 0	18 by 10	16 10 0
22 by 12 ..	26 5 0	18 by 9	14 17 6
22 by 11 ..	23 12 6	16 by 10 ..	14 7 6
20 by 12 ..	23 2 0	16 by 8 ..	11 6 0
20 by 10 ..	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.	£4 2 6
Ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles Hand-made	0 8 6
(per dozen) Machine-made.	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£16 0 0
Plain Compound Girders	19 0 0
" " Stanchions	21 0 0
In Roof Work	25 0 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	16 12 6	⅞ in. to ¼ in. ..	15 2 6
⅜ in.	15 12 6	⅝ in. to 2½ in.	14 12 6

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes. Sizes. ⅛in. to ⅜in.	Standard Wrot. and Tubulars. Sizes. ½in. to 2in.	Standard Flanges. Sizes. ¾in. to 2in	Standard Fittings.
	%	%	%	%
Gas	60	65	62½	58½
Water	57	62½	62½	55
Steam	53½	58½	51½	50
Gal, gas	50	55	51½	48½
Galv. water	45	50	43½	43½
Galv. steam	38½	43½	38½	40

C.I. HALF-ROUND GUTTERS—London Prices ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop. Ends
3 in.	1/2½	1/-	4d.
3½ in..	1/3½	1/1½	4d.
4 in.	1/3½	1/2½	5½d.
4½ in..	1/4½	1/4½	6½d.
5 in.	1/7½	1/6½	7½d.

O.G. GUTTERS.

3 in.	1/6½	1/4	4½d.
3½ in..	1/8½	1/4	5½d.
4 in.	1/8½	1/4½	6½d.
4½ in..	1/9½	1/7½	7½d.
5 in.	2/3	1/10½	8½d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches. stock angles.
2 in.	1/9½	1/2½	1/9½
2½ in..	1/10½	1/4½	2/2
3 in.	2/4	1/8½	2/7½
3½ in..	2/9½	2/1	3/0½
4 in.	3/2½	2/6	3/7½

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

	Pipe.	Bends, stock angle.	Branches. stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. ..	3 0½	2 2	2 7½
2½ in. "	3 7½	2 5	3 3½
3 in. "	3 10½	2 7½	3 11
3½ in. "	3 11½	3 2½	4 6
4 in. "	4 3½	3 7½	5 2½

L.C.C. COATED DRAIN PIPES.—London Prices, ex Stock.

	Pipe.	Bends, stock angles.	Branches. stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	4 8	5 6	8 9
cwt. qr. lbs.			
4 in. " 1 1 20	6 7	6 3	11 0
5 in. " 1 2 22	8 3	11 3	17 0
6 in. " 2 0 6	9 9	13 0	21 3

Gaskin for jointing 65/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

IRON—	Per ton. £ s. d.			£ London. £ s. d.
Common Bars	12 15 0	..		13 15 0
Staffordshire Crown Bars—				
Good merchant quality	14 10 0	to	16 0 0	
Staffordshire Marked Bars	18 0 0	..	19 0 0	
Mild Steel Bars	12 18 0	..	13 18 0	
Steel Bars, Ferro-Concrete quality, basic price	14 8 0	..	15 8 0	
Hoop iron, basic prices	14 8 0	..	15 8 0	
„ Galvanised	24 8 0	..	26 8 0	

IRON—	Per ton in London. £ s. d.		£ s. d.
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	16 5 0	..	17 5 0
„ „ 24 g.	17 5 0	..	18 5 0
„ „ 26 g.	18 5 0	..	19 5 0
Sheets, Flat, Best Soft Steel, C. R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	17 10 0	..	18 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	19 10 0	..	20 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes 6 ft. to 9 ft. to 20 g.	18 5 0	..	20 5 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	18 15 0	..	22 5 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	20 15 0	..	22 15 0
Sheets, Gavanised, Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	19 5 0	..	22 5 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 5 0	..	21 15 0
Best Soft Steel Sheets, 26 g.	21 15 0	..	22 15 0
Cut Nails, 3 in. to 6 in.	19 0 0	..	21 0 0
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1
Strong sheet	„	1 3
Thin	„	1 4
Copper nails	„	1 3
Copper wire	„	1 3

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
29/- 45/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
40/- 59/- per doz.

SCREW DOWN STOP COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
31/- 44/6 75/- 175/- 250/- 396/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
42/6 65/- 102/- 195/- 210/- 510/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 9/- 14/- 24/- 37/6 54/- per doz.

HEAVY CROYDON BALL VALVES.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
33/6 55/6 85/- 165/- 237/- per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
9/- 11/- 16/6 29/- 42/- 45/- per doz.

BRASS FERRULES OF SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
9/6 11/6 20/6 26/- 37/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼ in. 1½ in. 2 in. 3 in.
8 lb. Lead P... 17/6 23/- 32/6 66/6 per doz.
8 lb. Lead S... 21/6 27/6 39/6 73/- per doz.

SOLDER.—Plumbers', 1/2, Tinmen's, 1/4, Blowpipe, 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 4 3
Boiled „ „ in drums	„	0 4 6
Turpentine, in drums (10 gals.)	„	0 5 8
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		59 10 0
Extra for 1-cwt. kegs over 5-cwt. casks is		2/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered £ s. d. 79 0 0

Red Lead, Dry (packages extra)	per ton	52 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Size. XD quality	f'kn.	0 3 6

Turpentine substitute can be obtained and prices vary according to the quality from 2/9 gallon upwards.

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine do.	„	0 16 0
Fine Copal	„	0 18 0
Pale Copal	„	1 0 0
Pale Opal Carriage	„	1 4 0
Best do.	„	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	„	0 18 0
Fine Copal Cabinet	„	1 2 0
Fine Copal Flatting	„	1 0 0
Hard Drying Oak	„	0 18 0
Fine Hard Drying Oak	„	0 19 6
Fine Copal Varnish	Inside	1 0 6
Pale do.	„	1 12 0
Best do.	„	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

per ft. super.		per ft. super.
18 oz. O.Q.	2½d.	32 oz. O.Q. 5½d.
18 „ S.Q.	2¾d.	32 „ S.Q. 5¾d.
24 „ O.Q.	3½d.	Obscured Sheet, 18 oz. 3d.
24 „ S.Q.	3¾d.	„ „ 24 „ 4¼d.
26 „ O.Q.	3¾d.	Fluted 21 „ 9d.
26 „ S.Q.	4¼d.	Em'lld 18 oz., 5¼d., 24oz. 6¾d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, 3/16 in.	6½d.
Rough cast double rolled, ¼ in.	6¾d.
Figured rolled, and Cathedral, white	8½d.
Figured rolled and Cathedral, tinted	9¼d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
„ „ 32 oz.	4 0
„ Cast, ¼ in. thick	0 10
„ „ 3/16 in. thick	1 0
„ „ ¼ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
„ „ „ 3/16 in. thick	1 0
„ „ „ ¼ in. thick	1 2

"VITA" GLASS.

	s. d.
Clearsheet—not exceeding 1 foot	1 3
„ „ 2 feet	1 6
„ over 2 feet	2 0
Polished plate not exceeding 1 foot	1 6
„ „ 2 feet	3 0
Cathedral—not exceeding 1 foot	1 3
exceeding 1 foot	1 9
3/16" in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	3 0

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	34 10 0
Pipe in coils	35 0 0
Soil pipe	39 10 0
Compo pipe	41 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills per ton £21 10 0

BUILDING TRADE WAGES IN SCOTLAND

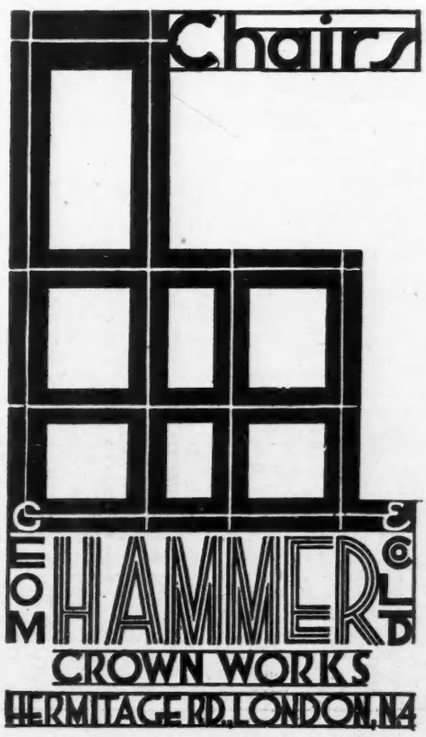
Following are grade rates authorised by the Scottish N.J.C. from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/9	1/8½	1/8	1/7½	1/7	1/6½
Labourers	1/4	1/3¾	1/3½	1/3	1/2½	1/2¼

Aberdeen	A	Dumfriesshire	A³	Inverness	*
Ayrshire	A	Dundee	A	Inverurie	A¹
Banff	B	Dunoon	A	Kincardineshire	A³
Berwickshire	A³	East Fife	A	Kinross-shire	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A
Broughty Ferry	A	Edinburgh	A	Midlothian	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A
Doune	A	Forfarshire	A³	Moray and Nairn	B
Dunblane	A	Glasgow	A	Newport	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A²
Dumfries	A¹	Hamilton	A	Perth	A
Perthshire	A³				
Peterhead	A¹				
Renfrewshire	A				
Rothesay	A				
Roxburghshire	A³				
St. Andrews	A				
Selkirkshire	A³				
Stewartry	A³				
Stirlingshire	A				
Stornoway	A³				
Tayport	A				
West Lothian	A				

*This town has its own rates: Masons, 1/7; Carpenters, 1/7; Slaters, 1/7; Plumbers, 1/7½; Plasterers, 1/8, but 1/9 is paid owing to the scarcity at present; Painters, 1/7 and Labourers, 1/2½.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 171.



THE SCOTTISH BUILDER

NEW BUILDINGS

AIRDRIE. — SCHOOL. — Lanarkshire C.C. intend to erect a Catholic central school for secondary and other purposes. Plans by Mr. J. Stewart, Albert-street, Motherwell-Wishaw.

DALSERF. — SCHOOL. — Mr. J. Stewart, architect, Albert-street, Motherwell-Wishaw, prepared plans of alterations, at £1,650, in the public school.

LANARKSHIRE.—BUILDING.—Plans prepared by the architects of Messrs. Brown, Stewart & Co., Ltd., Springfield-road., Glasgow, for reconstruction and new boiler-house at the Dalmarnock Paper Works.

ST. ANDREWS.—HOSTEL.—The Corporation is to convert into a hostel "The Priory."

STIRLING.—MORTUARY.—The C.C. is to erect, from plans by Mr. A. Malcolm, Old Infirmary-buildings, Spittall-street, Stirling, a new mortuary.

"The Story of Timber."

This is the title of a film made for the Timber Development Association by Dartington Hall, which was shown recently in London. It is intended chiefly for exhibition in schools and technical colleges as part of the educational campaign which the T.D.A. is continuing as a long-term policy in spite of the temporary difficulties of supply. The film tells the whole story of the production of timber and includes shots of the forests in Finland, Sweden and the Dominions. It lasts for 35 minutes.

PLUMBING TRADES APPRENTICESHIP

A MEETING of the Plumbing Trades National Apprenticeship Council was held recently at Wandsworth Technical Institute, Mr. D. N. Griffiths, B.Sc., M.I.Mech.E., being in the chair.

With reference to the calling up of apprentices under the Military Training Act and under the Armed Forces Act, the following information was supplied by the Ministry of Labour :—

Where a contract of service or apprenticeship is in force between an employer and an employee when the employee is called up or deemed to be called up for service under the Act, then

(a) If an arrangement has been or is entered into between the parties to the contract, or if the contract makes provision for dealing with all or any of the obligations of the parties thereunder in respect of the period of service under the Act the provisions contained in paragraph (b) hereof shall apply only in so far as they are not inconsistent with the arrangement or provision so made as aforesaid;

(b) If no such arrangement has been or is entered into or no provision made by the contract or to the extent that any such arrangement or provision does not deal with the obligations hereinafter specified, then the parties to the contract shall in respect of the period of service under the Act be relieved of all their obligations under the contract which relate to the following matters, that is to say, the payment of remuneration, the performance of work, or the provision of work, maintenance (including medical or surgical treatment) or instruction.

It was proposed by Mr. Pickford and seconded by Mr. Hoey and resolved that the Council was of the opinion that in all cases where apprentices in the skilled trades were called up, every effort should be made to utilise and to conserve the skill which had been acquired by employing them in units or positions in the Army where such work is required.

It was proposed by Mr. Meadows and seconded by Mr. Hoey and resolved that employers should sign all indentures of apprentices who had almost completed their apprenticeship prior to joining up. It was further suggested that they state on the indentures, wherever possible, the date of joining up and termination of their military service.

The Council approved of the City and Guilds recommendations for the award of prizes in connection with their examinations as follows :

United Kingdom Lead Manufacturers' Association : 1st prize, Albert George Cook, 31, Church-street, Dorking, Surrey, a student of the Redhill Technical College; 2nd prize, Harold Ellis, 52, Blagdon-avenue, South Shields, a student of the South Shields High School for Boys.

Copper Development Association : 1st prize, Walter Hall, 16, Uneeda-drive, Greenford, Middlesex, a student of the Harrow Technical School; 2nd prize, William Stocks, 25, Welbeck-road, York-road, Leeds, 6, a student of the Leeds College of Technology.

It was resolved that the meetings of the Council be held as usual during the war at the Institute of Plumbers.

Area Reports.—The following returns were received :—

Area.	No. indentured up to date.	No. completed training.	No. still in training.
London	171	74	91
N.E. Coast	552	361	158
Manchester (New Scheme)	43	1	42
N.E. Lancs	179	122	49

A vote of thanks to the chairman for his hospitality concluded the proceedings.

OFFICIAL NOTIFICATIONS

TIMBER CONTROL.

The Minister of Supply has made the Control of Timber (No. 8) Order, 1940, which covers supplementary schedules of maximum prices for imported softwood, imported pitwood, and plywood. The new schedules do not involve any increase in prices, but make provision for maximum prices for items not shown in previous Timber Control Orders.

CONTROL OF IRON AND STEEL.

The Minister of Supply has made the Control of Iron and Steel (No. 6) Order, which came into force on February 1, superseding the Control of Iron and Steel (No. 4) Order, 1939. In substance the previous Order remains unaltered, but attention is drawn to the narrower scope of the exemptions from licence contained in Direction (No. 1) attached to the Order.

The maximum prices fixed under the Order represent in the main an addition of 3s. per ton in the case of pig-iron and £1 per ton in the case of semi-finished and heavy steel products, with corresponding adjustments in the prices of finished products. These additions, as in the case of the additions made on November 1, 1939, are for the purpose of meeting from a Central Fund the additional costs, including higher freight charges, which arise from importations of raw and semi-finished materials under war conditions. There are also some further adjustments in the prices of tinplates and iron castings. Copies of Orders may be obtained from H.M. Stationery Office, or from any bookseller.

NEWS ITEMS

Music for the Troops.

As in the last war, Madame Clara Nopello Davies has launched a world-wide campaign for the provision of musical instruments for the troops—a scheme designed to brighten up the soldiers' leisure moments. Donations will be gratefully received by Madame Novello Davies at Stanhope House, Park-lane, W.1.

B.S. Specifications.

Recent British Standard Specifications received from the B.S. Institution, 28, Victoria-street, S.W., are :—

No. 879—Standard Steel Tubes for Water Well Casing (2s. 2d. post free).

No. 329—Round Strand Steel Wire Ropes for Lifts and Hoists (2s. 2d. post free).

Wages in the Building Industry.

The rates of wages for craftsmen and labourers in the building industry advanced by ½d. per hour as from yesterday, February 1. This is, of course, additional to the increase of like amount granted on December 1. A number of areas have, in addition, been regraded. Current rates as from February 1 will be found on page 171.

Thermal Insulation Workers' Bonus.

The following agreement has been arrived at between the Thermal Insulation Contractors' Association and the National Union of General and Municipal Workers, representing mechanics engaged on thermal insulation and boiler and pipe covering : 4s. per week war bonus for 48 hours and over to all employees receiving 1s. 3d. or more per hour; 2s. per week to all employees receiving less than 1s. 3d. per hour. Any employees working less than 48 hours to be paid pro rata. Payment to commence from February 1.

The Building Year at Middlesbrough.

The annual report of the Borough Engineer, Architect and Surveyor of Middlesbrough (Mr. Cecil Gorman, M.Inst.C.E.) shows that municipal works completed during the year included the new fire station and firemen's quarters; 50 houses on the Brambles Farm estate; and works at the police court, and two hospitals. This is in addition to a scheme of air-raid shelters of varying categories for 98,570 persons. Schemes commenced or contemplated, but suspended owing to the war, include a further 50 houses, a recreational centre, new gas showrooms, an art gallery, etc.

TRADE NEWS

Municipal Buildings, Watford.

In connection with this building, which was illustrated in our issue for December 1, 1939, Mr. C. Cowles-Voysey, F.R.I.B.A., the architect, asks us to state that the Reliance Telephone Co., Ltd., was responsible for the internal telephones.

Federated Employers' Insurance Association.

The directors of the Federated Employers' Insurance Association, Ltd., announce that, consequent upon the death of the late Deputy Chairman, Sir Walter Lawrence, J.P., of London, Sir E. Keith Nuttall, Bart., has been elected Deputy Chairman as from January 23. Mr. J. W. Gibson, of Messrs. Pauling and Co., Ltd., civil engineering contractors, of London, has been elected a director of the Association.

Timber Agents to Admiralty.

Messrs. Denny, Mott & Dickson, Ltd., announce that they have been appointed by the Admiralty to act as their agents in connection with the supply and distribution of timber to Admiralty contractors and subcontractors. This appointment has necessitated the return of their London office to Adelaide House, King William-street, E.C.4, and all future communications should be sent to that address and not to Ormonde-court, Putney.

Jacks for A.R.P. Rescue Work.

Borough architects and engineers charged with the duty of organising rescue squads for A.R.P. needs should be interested in a series of "Simplex" jacks manufactured by the Equipment and Engineering Co., Ltd. These are suitable for all purposes, including pushing, pulling, propping, shoring, pole pulling and straightening and emergency service. They are built without a single machine screw, expanded rivets being used; working parts have been reduced to a minimum, making for safety. Details are available from 2-3, Norfolk-street, W.C.2.

A Firm's New Departments.

Langley (London), Ltd., are opening a department which will handle asbestos cement products, *i.e.*, corrugated sheets and all fittings, flat sheets, and slates and fittings. Another new department will specialise in Langley's reinforced building paper. The uses of this material include the insulation of buildings (temporary or permanent) by lining roofs, walls, floors and ceilings to prevent penetration by damp, draughts and dirt; the curing and protection of concrete; A.R.P. purposes (light obscuration, the temporary covering of sandbags, etc.), and for making all kinds of temporary internal and external panelling (dust-proof partitions, wind-shields on scaffolding).

The company will, of course, continue to offer their range of clay roofing tiles, as also Langley's untearable roofing felt.

Diesel Engines.

Two years ago, Messrs. John Fowler & Co., of Leeds, published a book under the title of "Revolution," to show how they had revolutionised their manufacturing methods and put down modern plant for the production of the Fowler-Sanders diesel engines. They have now issued a new brochure, under the title of "Achievement," the purpose of which is to show clearly how that policy has succeeded. It epitomises in pictorial form the great amount of internal combustion engine work carried out by Fowlers in all parts of the world in the short space of two years. The brochure contains no heavy reading, but consists of a series of pictures showing upwards of twenty typical jobs on which Fowler-Sanders engines are now employed, including several special applications for A.R.P. work. Engineers and all others who are interested in internal combustion engines should make a point of securing a copy of this useful publication. Copies may be obtained direct from Messrs. John Fowler & Co. (Leeds), Ltd., Leeds, 10, or from their agents in different parts of the world.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Barking.—Steelworks for new town hall, for T.C. : *Sanders and Forster, Ltd.

Barnsley.—Engineering work in connection with extension of boiler house at St. Helen Hospital and Municipal Institution, for T.C. *Young, Austen & Young, Ltd., 22, Park-row, Nottingham, £3,238.

Birmingham.—Alterations to "Cobden" hotel, Cherry-st., for Birmingham Coffee House Co., Ltd. Dallas and Lloyd, architects, Newhall-st. : *J. Moffatt and Sons, Ltd., Camp Hill, Birmingham.

Chelsea.—Installation of electric lighting in air raid shelters at blocks of flats, and electric lighting in six public shelters, for B.C. *T. Clarke and Co., £586 10s. and £77.

Cheshunt.—Report centre and cleansing station, for U.D.C. :—

H. Hanson, Ltd., N.7	£2,146	0	0
Grainger and Apthorpe, South Harrow	2,025	5	7
*Trout and Dilloway, The Elms, Cannon Hill, N.14	1,885	0	0

Surveyor's estimate, £2,200.

Dagenham.—Chain link fencing, supply and erection in New-rd. for T.C. *Peerless Fence and Products, Ltd.

Derby.—Prevention of flooding of : (a) 98 shelters; (b) 28 shelters; for T.C. (a) *Corporation, £735. (b)*Browning Bros., Ltd., Derby, £182.

Distington (Cumberland).—Factory. *James Laing & Son, Dalston-rd., Carlisle.

Gateshead.—Power stations at Gateshead and other places for the Rediffusion Co. *J. R. Rutherford & Sons, Minories Joinery Works, Newcastle.

Gateshead.—Theatre to seat about 300 people. Hill & Honeyman, architects. *W. Blackett & Son, Sutherland-st., Gateshead.

Glasgow.—A.R.P. shelters at Bridgeton, for A. and J. Giffer and Co., Ltd., Norman-st. A. MacGregor Mitchell, architect and quantity surveyor, 131, West Regent-st., Blythswood : Excavation, brick and building, *A. Mitchell and Sons, Ltd.; joinery, carpentry and ironmongery, *G. Laird and Son (Glasgow), Ltd.; plaster and lathing, *G. Roome and Co. (Glasgow), Ltd.; steel construction, *Redpath, Brown and Co., Ltd. (All of Glasgow.)

Glasgow.—Double-storied sheds at the Clydeside, for the Clyde Navigation Trust. A. G. Gardner, engineer and architect, 16, Robertson-st. : *W. Baird and Co., Ltd., Temple, Anniesland.

Haverfordwest.—Internal plastering, etc., works at the "White Horse," 16, Dew-st., for T.C. R. G. Henderson, M.I.M. & Cy.E., B.S. *A. Jenkins & Son, 50, Barn-st., Haverfordwest.

Irthlingborough.—Extensions of tannery for Keunen Bros., Ltd., Station-rd. J. Panter, architect, of Talbot, Brown & Fisher, architects, Burysteed, Wellingborough. *C. Adams & Son, Finedon-rd., Wellingborough.

Jarrow.—Conversion of premises in Percy-st. into fire brigade action station and store for T.C. *Maddison Bros., Burn-st., Jarrow.

Kidderminster.—Sewage disposal works for T.C. *Wilson Lovatt & Sons, Ltd., Clarence-st., Wolverhampton, £184,800.

¶London (Air Ministry).—Contracts placed for the week ended January 27 : various buildings and external services, J. Mowlem & Co., Ltd., London; district heating, Hope's Heating and Lighting, Ltd., Leeds.

London (War Department).—Contracts placed for week ended January 23 : Building work, Hants, C. H. Gibson, Ltd., 509, London-rd., Thornton Heath, Croydon, and A. E. Symes, Ltd., 1a, Carpenters-rd., E.15; Isle of Wight, H. G. Mills & Sons, Norwood-pl., Pakesdown, Bournemouth, and W. J. Simms, Sons & Cooke, Ltd., Haydn-rd., Sherwood, Nottingham; London, Henry Kent (Builders), Ltd., Hither Green, S.E.13, John Mowlem & Co., Ltd., Royal Albert Docks, E.16, and J. E. Evans, 88b, Maxey-rd., S.E.18; miscellaneous work, Lanarkshire, Dunhill Bros., York-rd., Leeds, 9, Piggott Bros. & Co., Ltd., 220, Bishopsgate, London, E.C.2., and W. J. Glossop, Ltd., Osbaldwick, York; Cheshire, Boultons (Bebington), Ltd., 17, Chester Old-rd., Bebington; Lancashire, F. M. & H. Nuttall, Ltd., 178, Bury New-rd., Whitfield, nr. Manchester; Stirlingshire, W. C. Simpson & Son, Ltd., 30 and 42, Haymarket-ter., Edinburgh; Dumfriesshire, Robinson & Davidson, St. Catherine's Gate, Dumfries; Lanarkshire, Murdock Mackenzie, Ltd., Wilson-st., Motherwell; Hampshire, C. Bryant & Son, Ltd., Whitmore-rd., Small Heath, Birmingham; Staffordshire, Eadie & Co., 29, Waterloo-rd., Wolverhampton; T. Johnson (Contractors), Ltd., Gt. Brook-st., Birmingham; W. Kendrick & Sons, Ltd., Taske-st., Walsall; and A. & J. Mucklow, Ltd., Old Hill; Cheshire, Lloyd & Cross, Ltd., 68, Argyle-st., Birkenhead, and T. Warrington & Sons, Ltd., 96, Station-rd., Ellesmere Port; Lancashire, T. Collier, Ltd., Brown-st. Works, Leigh, Lancs; hutting, Lancashire, J. Tinline, Ltd., Parker-st., Bury; Essex, F. Hutton & Son, Ltd., Birch, Colchester; Renfrewshire, J. Dow Stuart, Ltd., 102, Bath-st., Glasgow, C.2; Cheshire, Daniel Cooper, Ltd., Clarence-st., Warrington; Lancashire, J. McGeogh & Sons, Ltd., Wallasey; constructional work, Hants, Brazier & Son, Ltd., 57, Above Bar, Southampton; Yorkshire, W. G. Robson, Ltd., Bamforth-st., Sheffield, 6; steel work, Northumberland, A. & J. Main & Co., Ltd., Possilpark, Glasgow; concrete work, London, Trussed Concrete Steel Co., Ltd., Horseferry-rd., Westminster, S.W.1.

Manchester.—Erection of "Charlestown" Hotel, Charlestown-rd. and Belthorn-rd., Moston, for Peter Walker & Son (Warrington and Burton), Ltd., Dalham Brewery, Warrington. G. Westcott & Son, architects, 31, Byrom-st. General contractors, *J. & N. Dickinson (1922), Ltd., 37, St. George's-rd., Bolton. Excavating, concreting, brickwork, *C. Musker, Bros., Ltd., Swinton, Manchester. Steelwork, *Heenan, Beddow & Sturmey, Ltd., Newton Heath, Manchester.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.

"BIG BEN TOWERS." 23, OATLANDS DRIVE, WEYBRIDGE, SURREY. 'Phone: Walton 614 and 615.

Market Harborough. — Extension of slaughter house for U.D.C. J. G. Barlow, E. and S. Steelwork, *Matterson, Huxley & Watson, Ltd., Cross Cheaping, Coventry. Running rails and equipment, *Lockerbie & Wilkinson, Ltd., Tipton.

Morecambe and Heysham.—Storage building, Back Avondale-rd., for Harrison & Sons (Morecambe), Ltd., Alexandra-rd. Garage. *Wm. Huddleston & Sons, Back Sefton-rd., Morecambe.

Morecambe and Heysham. — Factory. *George Wimpey & Co., Ltd., 27, Hammersmith-gr., London, W.6.

Newcastle.—Warehouse in Sidegate-st., for Messrs. Sutherland. J. Walton Taylor, architect, Union-bldgs., St. John-st. *J. R. Rutherford & Sons, Minories Joinery Works, Jesmond, Newcastle.

Newcastle.—Laboratories at paint works of Dampney & Co. T. A. Page, Son & Bradbury, architects, 75, King-st., South Shields. *Gordon Durham, Beldon-la., East Beldon, Durham.

Newcastle Emlyn.—Four houses, non-parlour type, for R.D.C. W. Ewart James, architect, Birch Court, Llanybyther : *E. O. James, Gwernfa, Almporth, Cards, £1,750.

Nottingham.—E.C. propose completion of council school for 2,730 scholars at Bestwood estate. R. M. Finch, City E. and S. *Thomas Bow, 45, Larmartine-st., Nottingham. £173,483.

Oldham.—Alterations to provide maids' quarters, Holmfield House, Union-st. West, for Governors of the Royal Infirmary. E. Simster, F.R.I.B.A., architect, York-chbrs., Yorkshire-st. Brickwork, *T. Partington & Son, Chadderton. Joinery, *W. Henshaw & Son. Plumbing, *E. Oates, Ltd. Plastering, *E. Pearce. (All of Oldham.)

Preston.—Building to be used as a staff hostel for L.M.S. Rly. Co. W. K. Wallace, chief engineer, Euston Station, London, N.W.1. *H. Joyce & Sons, Ltd., Martin's Bank-chbrs., Clifton-st., Blackpool.

Preston. — Works premises extension, Marsh-la., for Atkinson Lorries, Ltd. *P. A. Baines & Son (Preston), Ltd., Paley-rd., Preston.

Salford.—Extensions to mercerising department of factory for Bury Isaac, Ltd., Blackburn-st. and Adelphi-st. Thorpe & Smith, architects, 66, Deansgate, Manchester. *Works Dept., Salford, 3.

Scotland.—Supplying and laying about 880 lin. yds. of 3-in., 2-in. and 1½-in. asbestos cement pressure pipes; constructing reinforced concrete storage tank and relative works; and supplying and laying about 620 lin. yds. of 3-in. dia. spun-iron water mains at Middleton, Gorebridge, Midlothian, for Scottish Special Housing Assn., Ltd. Parker, Gordon and Ogilvie, engineers, 3, Palmerston-pl., Edinburgh, 12 : *J. W. Thomson, "Glenloin," Gorebridge, Midlothian.

Seaton Valley.—Demolition and disposal of approximately 30 houses in Long-row and Double-row, New Hartley, for U.D.C. T. W. Burgess, M.Inst.M. & Cy.E., E. and S. : *E. J. Fenn, 19, Avenue-rd., Seaton Delaval, £210.

Skipton.—Extensions to tannery for J. Brooksbank, Son & Co., Ltd. J. Howard Wales, architect, Exchange-bldgs. *Merritt & Friars, Ltd., Sackville-st., Skipton.

Smethwick.—Two-storey extension to police station, for T.C. Roland Fletcher, B.E. and S. *Direct labour. Reinforced concrete hollow tile floors, flat roof and staircase, *Helical Bar & Engineering Co., Ltd., 36, Cannon-st., Birmingham. Heating and hot water installation, *G. N. Haden and Sons, Ltd., 45, Gt. Charles-st., Birmingham, 3. Cost £6,000.

Stanley.—Improvements to auxiliary fire station for U.D.C. J. R. Heslop, S. *Direct labour, £963.

Stoke-on-Trent.—Works for T.C.: Substation building, Sandon-rd., Meir, *Minshall and Co., Cobridge, £829 (in lieu of previous tender). Exterior painting and interior decoration: Carmountside site—56 houses (5th contract) (part), *Mollatt's, Hanley, £185 17s. 3d, alternative (same site), W. H. Deaville, Bucknall, £189; Carmountside site—88 houses (6th contract), *J. E. Goodwin, Abbey Hulton, £836, alternative, W. H. Deaville, Bucknall, £830; Gom's Mill-road, Longton, site—34 houses (3rd contract), *A. Goodwin, Shelton, £358, alternative, W. H. Deaville, Bucknall, £330; Meir (No. 3) site—78 houses (5th contract), *Ash and Edwards, Hanley, £782 14s., alternative, W. H. Deaville, Bucknall, £740; Shelton New-road, Stoke, site—79 houses (1st contract), *T. Bernard, Hanley, £755, alternative, W. H. Deaville, Bucknall, £750. Exterior painting: Meir (No. 3) site—66 houses (3rd contract), *A. Gibson, Cobridge, £145 10s., alternative, W. H. Deaville, Bucknall, £164. Interior decoration: Acreswood, Lane, Burslem, site—38 houses, *T. E. Talbot, Burslem, £275 10s., alternative, A. Collins, Chell, £289 15s.; Fletcher-road, Stoke, site—96 houses, *W. H. Deaville, £670, alternative, T. E. Talbot, Burslem, £696; Hanley-road, Burslem, site—34 houses, *T. E. Talbot, £248 4s., alternative, D. E. Heald, Sneyd Green, £255; Sneyd Hill, Burslem, site—18 houses, *A. Collins, Chell, £130 10s., alternative, T. E. Talbot, Burslem, £130 10s.

Stone.—Works of sewerage and sewage disposal. Contract No. 3, for U.D.C. A. H. S. Waters, E., 25, Temple-row, Birmingham, 2. †Mirrlees-Watson Co., Ltd., Scotland-st., Glasgow, C.5, £2,993.

Stourbridge.—Interior repairs and decorations at council houses, for T.C.: (a) 36 houses, Charles-rd., South-rd. and Lawn-av.; (b) 100 houses, Wynall-la., Ashfield-cres. and Woodfield-av.; (c) 113 houses, Grange-rd., Hadfield-rd. and Hatfield-rd.; (d) 98 houses, Woodward-pl., Randle-rd. and Prescot-rd.; (e) 48 houses, Central-av. G. N. Maynard, B.S. (a) *S. V. Price, Quarry Bank, Stourbridge, £417. (b) *George Jones & Co., £900. (c) *F. G. May, Ltd., Birmingham, £1,173. (d) *Balderson & Dickenson, Keighley, £936. (e) *E. G. Green & Co., Stourbridge, £579.

Sunderland.—Four feeder switch houses and two generator switch houses at electricity works for T.C. W. A. Royle, B. Electrical E. *D. & J. Ranken, Ltd., Stockton-rd., Sunderland.

Swinton. — Extensions at Langley-rd., Pendlebury, for Universal Metal Products, Ltd., Salford, 6. W. H. Cahn, architect, 19, Norfolk-rd., London, N.W.8. *J. Gott, Ltd., Pilsworth-rd., Heywood, Lancs.

Wellingborough.—Supply and delivery of 12-in. valves, air valves, etc., for cast-iron water main for U.D.C. R. Kilby, E. and S., Council Offices, Swanspool. *J. Blakeborough & Sons, Ltd., Brighouse.

Wellington.—Works of sewerage and sewage disposal, in parish of Lilleshall, for R.D.C. A. H. S. Waters, E., 25, Temple-row, Birmingham, 2. *W. H. Young (Ackworth), Ltd., Wakefield-rd., Ackworth, Pontefract, £7,763.

Wolverhampton. — Factory, Zoar-st. *T. Preston & Sons, 25½, Lord-st., Wolverhampton.

Wolverhampton.—Extension to factory for A. Fallon & Sons, Ltd., founders, Church-la. *Jesse Tildesley, Ltd., Crescent-wks., Darlaston.

Wrexham.—Demolition of existing buildings at rear of County Buildings, and erection of garages, cleansing depot and A.R.P. store for Denbighshire C.C. W. D. Wiles, county architect, Acton Hall. †Gittins & Sons, Aberderfyn, nr. Wrexham, £3,600.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan and Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

U.D.O. (MOORGATE), LTD. (358681).—Registered January 6. Engineers, architects and general designers. 29 and 32, Finsbury-pavement, E.C. Nominal capital: £900.

LIVERPOOL CONTRACTORS, LTD. (358625).—Registered January 4. Civic House, Great Charles-street, Birmingham. To acquire and develop lands; to carry on the business of builders, contractors, etc. Nominal capital: £9,999.

R. HINDLE (BURNLEY), LTD. (358703).—Registered January 8. 12, Hargreaves-street, Burnley. Builders, public works contractors, etc. Nominal capital: £1,000.

JOHN DODSON, LTD. (358810).—Registered January 13. 29, Fetter-lane, E.C.4. Builder, contractor and decorator. Nominal capital: £2.500.

AMALGAMATED BUILDING CONTRACTORS, LTD. (358765).—Registered January 12. Builders, plumbers, electrical and general contractors, etc. Nominal capital: £2,000. J. E. Corgan, 51, Palmerston-crescent, Palmers Green, N.13.

PEARSONS AND STUART, LTD. (358736).—Registered January 10. 1, Central-buildings, Westminster, S.W.1. Builders' merchants, etc. Nominal capital: £9,000.

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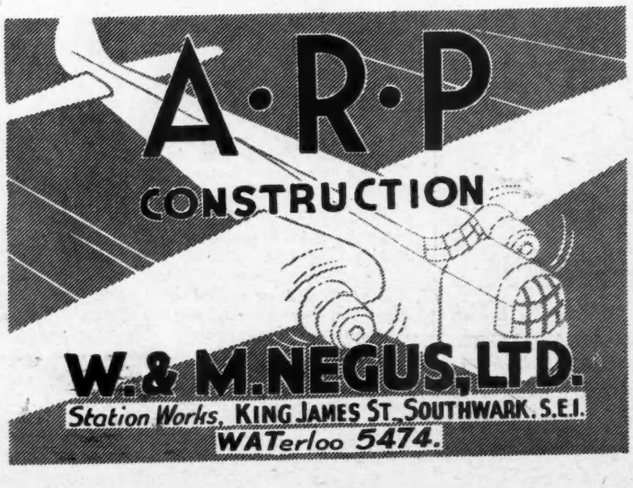
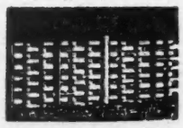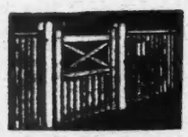
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